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THE JOURNAL

OF THE

American Medical Association

Subscription, $7.00 | PUBLISHED WEEKLY | Single Copies, 25 Cents

VOLUME 100, No. 20 | 535 North Dearborn Street, CHICAGO, ILL. | MAY 20, 1933

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Entered as Second-Class Matter, June 25, 1885, at the Postoffice at Chicago, Ill., under Act of March 3, 1879. Acceptance for mailing at special rate of postage provided for in Sec. 1103, Act of Oct. 3, 1917, authorized on June 14, 1918.

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The Journal of the American Medical Association

Published Under the Auspices of the Board of Trustees

VOL. 100, No. 20 CHICAGO, ILLINOIS MAY 20, 1933

MEDICINE AT THE CROSSROADS

HARVEY CUSHING, M.D.

BOSTON

In April of 1918, a Canadian casualty clearing station had been newly set up, in the emergency of that critical time, at a hamlet called Pernes somewhere near Bethune in Flanders. The surgical "teams," as they were called, hurriedly assembled from where they could be spared, were working on day and night shifts like factory hands to keep abreast of the raw material fed in to them. We dealt with wounds—not the man. For him we had no time. Some far away government took that responsibility and is still paying for it. In the midst of this, on an afternoon while in the course of one more gruesome task, I was suddenly told by a much annoyed Commanding Officer that orders had been received from the A. E. F. for me to report forthwith at a place called Langres.

Anything may happen in time of war, and one asks not why. Langres, as it turned out, was a perfectly safe hill-town half way across France between the headwaters of the Marne and the Meuse. And not knowing whether I was to be demoted for some breach of discipline or made commander-in-chief, with ill-concealed agitation I presented myself there in due course before the C. O. of what proved to be a training school for Army medical officers. I was informed I had arrived just in time to give the noon lecture on battle injuries of the head.

Of that ill prepared and futile lecture—after which I was dismissed—the less said the better. I was picked up by a sympathetic friend permanently attached in Langres—a first lieutenant, considerably my senior in years, who in normal times was a professional colleague. He offered to take me to lunch at his mess before my departure. On the way there—and I at last approach the point of this recital—we passed, in a narrow street, the open window of a shop in which, concentrated on his work, there sat before a bench an oldish man in shirt sleeves and a leather apron making jack-knives. He wasn't making parts of knives but the whole knife—steel blades, bone handle, and all; and some of them, finished, were hanging in the window alongside a much faded blue tunic with a wound stripe on the sleeve, which told its own story.

Were his knives for sale? Yes; since times were hard, only six francs for the better ones, and we could step in and have a look if we desired. A pocket knife may sometimes be useful to cut red tape, and when I had made a selection he examined the knife carefully, put it back and took another which he said was a better one. If I didn't lose it, it would last all my days; and would I notice the spring—no breaking of fingernails with a carefully made and tested knife like this — a masterpiece if he said so as shouldn't. So admiring was he of his handiwork I began to think he would not bring himself to part with it; but his decision to do so was suddenly stiffened by the entry from a back dwelling-room of his wife and two children—future jack-knife makers in all probability.

Not long after this, I somehow or other happened to sit in at an informal discussion between two French officers and two American efficiency experts, members of an advisory commission that had been sent to France. Plainly the reason the Allies had not already won the war was their want of industrial organization, their inability, for lack of proper machinery and modern methods, to turn their raw materials rapidly enough into the finished product and to give it wide distribution. The only way to do this effectively was the way we made motor cars in America, each workman contributing his small part, at high speed, in short hours, for good wages.

After much more in similar vein, the senior French officer finally said: "This may all be true, gentlemen, but it would be almost better for us to lose the war. The French artisan works because he likes to, often at his home, can turn his hand to many things, is frugal and content with small earnings, can usually make, pretty much with his own tools and hands, some finished product which he can sell. So even in trying times like these, he gets independently to work as his own employer, somehow supports himself, and merely asks to be left alone. Were he forced into being a piece-work specialist he would lose his resourcefulness and independence of action. Should this happen on a large scale, discontent would surely follow and our social order fall to the ground."

That night I fell asleep thinking of the Langres knife-maker. Every foot-soldier should have a jack-knife—not just an occasional officer. There must be a more even distribution of bigger and better and sharper knives. All independent knife-makers in the emergency are congregated in a factory where some do the blades, some the handles, some the assembling of parts, the labeling and packing, the advertising, the selling, the foreign distribution—everyone a specialist in his own line. It becomes a great business, a marvel of efficiency. Jack-knives are quoted on the stock market and prices soar. New machinery is installed whereby synthetic knives can be turned out by the million almost without aid of human hand—and everyone knows the awakening. A glut on the market, a closed factory, all knife-makers out of work; and even those few who still remember how to fashion a good, complete jack-knife from the raw materials no longer able to sell them, join

Presidential address, read before the Congress of Physicians and Surgeons at Washington, D. C., May 9, 1933.

the others, march on Paris behind the red flag of protest, and demand from the government either a dole or a new sorting of the cards. Whereupon a group of well intentioned philanthropists, sociologists, economists and lawyers, together with two former knife-makers, one now a specialist in corkscrews, the other in synthetic-bone handles, are appointed to study in all its aspects the relation of knife-making to the common weal..

This, after all, is not much of a story — partly a dream at that — and perhaps only by a stretch has it anything to do with present crux in which the medical profession finds itself, overmanned, overspecialized (behold this Congress!), like other necessities of life poorly distributed, an expensive luxury for those of modest means and the subject of investigation by a commission which threatens us with socialization unless we promptly do something to alter our spots, to cast off our long-conditioned reflexes, and put ourselves on a modern chain-store business basis. This for the next twenty-five years at least, and that's as far ahead as there is need to plan, will serve to make everyone — including the doctor — happy, healthy and wise.

A lawyer on the commission goes so far as to use the ugly word "coercion" and when a friend, familiar with jurisprudence, was asked just what that meant, he said "government by force." And to the question whether it would be possible similarly to "coerce" the legal profession into caring for persons of modest means on the same parity as the well-to-do, he replied: "No, the lawyers are too smart and there is too large a percentage of them in our legislative bodies ever to bring such a thing about."

A recent leader of public opinion openly states that most of those at present dealing with the sick—meaning more specifically the doctor — have their faces turned toward the past. If history but repeats itself, where else but from the past *can* we learn anything? We certainly can draw little comfort and few admirable lessons from the late present. Nor would this seem to be the time to fly to evils we know not of, but rather to stick firmly to what has proved in the long run the great stabilizer—every honest man with faith, hope and a stout heart going about his own business, with swift punishment for dishonesty and crime. And lest we forget, let us for a moment in reality *turn* our faces to the past:

> "The prevalence of crime he assigned to want of employment among the poor, to the idleness and the luxury of the well-to-do, to the recklessness with which the rulers engaged in war, and to the readiness with which merchants were converting arable land into pasture; villages were laid waste and the opportunity of labor was greatly diminished in order to fill the coffers of capitalists. Discharged soldiers, troops of dismissed retainers from the households of the gentry, who, after a life of idleness, were thrown on their own resources, ploughmen and peasants, whose services were no longer required by the sheep-farmers, perilously swelled the ranks of the unemployed and made thieving the only means of livelihood for thousands of the population. A more even distribution of weath was essential to the country's salvation. To this end were necessary the enjoyment of the blessings of peace, restrictions on the cupidity of the capitalist, improved education of the humbler classes, and the encouragement of new industries."

While this might have been written of many times and places since then, it in effect was what the old sailor Raphael Hythloday had to say concerning the status of England in the sixteenth century. Things were quite different, he said, on the island of Utopia, whence he had recently returned. There everyone lived in complete social happiness and brotherly love; disdaining money, they wanted for nothing, not even hospital care, and could worship as they chose.

Needless to say, when the crisis came in his own affairs, the author of this more often quoted than read allegory, with the inconsistency that affects mankind, failed to live up to his expressed ideals, attempted to coerce others to his own theological beliefs, and lost his head in the process. Social reformers, no less well intentioned and lovable characters than was Sir Thomas More, sometimes lose their heads though not always in just that way. More's great friend Erasmus wrote a famous skit in praise of folly, and More doubtless knew well enough that "the greatest folly of which a man is capable is to sit down with slate and pencil to plan out a new social world," though we waited almost four hundred years for a student of society to say just that.

Heaven knows there are plenty of things the commoner, including most doctors, would like to see corrected and the sooner the better—dishonesty among those entrusted with other people's savings, less interest in legal procedure and more justice among the lawyers, as examples—and the doctor wonders why, just at this time, when in spite of widespread distress and anxiety the health of the people as a whole is better than ever, he should be particularly singled out and told if he doesn't distribute himself more evenly, stop specializing and charge less, he'll be coerced into doing so. He thinks this highly peculiar, for hasn't he always striven with ever increasing success to eliminate one after another the diseases whose particular care provides his bread and butter? And has he not shared with the priest, from the beginning of the record, in giving a large part of his time to the indigent poor in whom business, finance and the law may be theoretically interested without showing it in so direct and practical a way?

Lay reformers speak lightly of his code of ethics as something long since outworn, but so far it has prevented him, for one thing, from capitalizing for his own benefit his inventions and therapeutic discoveries. If Jenner and Lister had been trained in the point of view of modern business efficiency, instead of being just a plain, improvident country doctor and a young hospital surgeon, whose only desire was to help others and to stand well in the esteem of their professional fellows, what then? For the discovery of the practical application of ether anesthesia, Medicine has no corresponding hero because someone, having unethically taken out a patent, proposed to sell it to the government for a large sum and very nearly succeeded in doing so —all of which is thoroughly ventilated in five hundred and eighty-two printed pages of testimony before a select committee of the United States Senate to their great waste of time. For what could be their understanding of an ancient profession's precepts in regard to what its votaries may and may not properly do?

It is preposterous, writes the efficiency expert, to say that a man, even a doctor, is not entitled to what he can make out of his inventions. The medical man of the future will pay more attention to prevention than to cure, says the young D.P.H. to his hostess as he accepts his second cocktail. The social reformer, stopping at the corner store for his favorite brand of cigarets, purchases a sixty-cent bottle of the latest "pectoral" which the clerk says will be good for his (easily preventable) chronic cough; and, dear me, he's almost

forgotten his promise to fetch home Aunt Maria's weekly bottle of Lydia E.'s Restorer at $1.25; for though it isn't so restoring as when it contained forty per cent, she still takes it after meals.

Knowing their frailties, the doctor doesn't think overmuch of his fellowkind while doing what he can to prevent, alleviate or cure their ills. He at least doesn't overrate them and treats like any one else the chiropractor and the science healer (secretly) and the veteran who draws a total disability allowance yet is on the police force, and even the prosperous-looking uplifter of society, knowing that each of them will look surprised when asked to pay for his services and that, so far as concerns *them,* he'll soon join the ranks of others never thought of.

It is not with such as these that the doctor shows his best side. He feels far more at home with the ordinary, self-respecting people of modest means who don't expect, on this earth, to find green pastures provided for them with ten-cent cigars, a two-car garage, and a fish-fry in every dinner pail. They frankly say just what their circumstances are and what they can pay and when. For them, too, he can do no more than his best and only wishes it could be better, and cuts their bill in half or cancels it altogether. They never forget him but send him each year a note on the anniversary of the operation and, like enough, a pair of carpet slippers for Christmas which he can't use for he's in his boots till bedtime. But this he doesn't admit when making his acknowledgment, for he cherishes their remembrance—even their gratitude though pretending not to like it. And as a matter of experience, those who can least afford it are the ones among his patients most eager to make a prompt cash payment to him even though a large part of every hard-earned dollar goes to various unseen persons whom they are making rich, and to whom they feel obligated in no comparable way.

In his common sense discussion of the ever shifting manners, mores and morals of society before the undergraduates at Yale a generation ago, William Graham Sumner had much to say about a particular man who is never thought of and on whom the burden always falls. In the complexity and rivalry of human interests, he is the one who in the end always has to pay—even for the efforts of social reformers to make the world over.

"For once let us look up and consider his case, for the characteristic of all social doctors is that they fix their minds on some man or group of men whose circumstance appeals to the sympathies and imagination, and they plan remedies addressed to the particular trouble. They do not understand that all the parts of society hold together and that forces which are set in action act and react throughout the whole organism until an equilibrium is produced by a readjustment of all interests and rights. They therefore ignore entirely the source from which they must draw all the energy which they employ in their remedies, and they ignore all the effects on other members of society than the ones they have in view. They are always under the dominion of the superstition of government, and forgetting that a government produces nothing at all, they leave out of sight the first fact to be remembered in all social discussion—that the state cannot get a cent for any man without taking it from some other man, and this latter must be a man who has produced and saved it."

Now in the issue before us, if I may venture to paraphrase Sumner, everyone's sympathy, including that of reformer *A* and his friend *B* who stands financially behind him, lies with the self-respecting person *X* of modest income, who finds it difficult to meet the expense of medical care in case of sudden illness or accident from some unpredictable and unpreventable cause. For the sake of *X,* this particular evil must be remedied by a statute which will determine, not what *A* and *B might* do for *X* themselves, for they would need no legislation for that, but what an intermediary *C* (in this instance the doctor) *must* do for him.

Now *X,* who has not yet been consulted, will be likely to say when he gets wind of it that, after all, he doubts whether he will ever need doctor *C,* even should he prefer him, when the time comes, to another medical man of his acquaintance. What is more, he is already burdened with more insurance and taxes than he can afford. He is already paying to support the local, state and an expanding federal board of health, for prisons to accommodate the rapidly increasing number of criminals, for institutions to house the even more rapidly increasing insane and feebleminded, for hospitals to care for that organized group calling themselves "veterans," who may not increase in number but do in their demands, which amounts to the same thing.

So he and his neighbors conclude, in accordance with Sumner's social philosophy, that they as usual will again foot the bills, just as their common kind originally paid, little by little, all that now fills the coffers of *A's* philanthropic friend *B* of the foundation which is backing the proposal. And from all one can learn, so far as the public purse is concerned, the old adage which likens it to holy water still holds true—those who have access to it help themselves.

Unfortunately, *X* is not always so sensible a fellow as to make a family friend, confidant and adviser of one or the other rival practitioners in his small town. And when the *X's* gravitate to the city and shift from place to place when there, you and I know they are more apt to choose an abode convenient to a cinema and a drugstore than to a doctor. When a member of the family takes ill and fails to respond to the usual proprietary remedy, a neighbor is consulted who turns out to be a Christian Scientist; or another who suggests the particular chiropractor who for five dollars cured Uncle John of the flu at one sitting; or a third who has just seen in the morning paper the name of a perfectly swell professor who has just done something wonderful at the New Medical Center to a woman who swallowed her false teeth.

Acting on this suggestion, he is called on the telephone and asked if he won't please come immediately to Number so-and-so in Harlem to see a sick woman just in his line of work. No, they have no family doctor; so he asks if there is not a doctor in the neighborhood they can more conveniently and promptly call in. "Yes, there is a Dr. Jones just around the corner but we don't know him as we've only lived here nine months and never needed a doctor before, and anyhow he is only a house-to-house doctor, and the case is so urgent we need a specialist at once and we can't afford to go to the hospital, it's so expensive."

Our urban populations are largely composed of people of just this sort, and what's to be done to save them against themselves and keep them from "shopping around" as it's called? In this particular emergency one can't stop to theorize about systems of voluntary *versus* compulsory insurance, the chief burden of which would fall as usual on the average provident man of good habits; the matter must be attended to at once.

Ten chances to one there is nothing seriously wrong with this panicky woman, but the single chance can't be taken and the "swell professor" before he hangs up,

if he is the kind of man I know him to be, tells the person at the other end of the line he regrets he can't come himself but he will shortly have someone there to see what can be done. He has Dr. Jones's office called up to say there is a sick woman nearby and will he please see her when he conveniently can and say he comes at the "professor's" (God save the mark!) special request; and will he then take the case in charge or send her to a hospital, as he thinks best.

Here the chances are also ten to one that the local doctor will prove capable and efficient, will promptly grasp the situation, know how to deal with it, and gain the confidence of the family and their friends. "Such a nice doctor, so scientific; and to think we've never known about him before! Why, he cured Mother's trouble in one visit and only charged two dollars though he's a great friend of the professor at the Medical Center whose name was in the paper." This, and a definite understanding that his back bills are to be paid before yours and mine, is the correct way to deal with the problem of the general practitioner, and it is more often followed than people believe.

But who is this house-to-house doctor so suddenly sprung upon us? He has supposedly gone out of business, pinched on one side by the public health officer and periodic life-extension examiners, and on the other side by what are called the scientific doctors, including ourselves, the specialists in our respective hospitals. He has long been so far forgotten he should by this time be an extinct species. Indeed, it is authoritatively said that the automobile and the associated highways together with the present "set-up" of society have driven out the unmethodical, silk-hatted, bewhiskered, lovable and friendly general practitioner.

This scornful picture of the practising doctor shows lack of knowledge, besides being somewhat cruel. Whiskers and a silk hat don't make the man. Fashion makes the whiskers; and the boys in blue were as good soldiers for all their beards and Bull Durham as were those in khaki with their clean faces and fags — too many at that. Gillette and Henry Ford and the Dukes may through advertising and salesmanship change our appearance, our manner of getting about, and incite us to bad habits—incidentally with great profit to themselves. But even though his whiskers have gone with his tall hat, if he ever had one, and he comes in a cheap motor car instead of behind a horse, and nervously smokes too many cigarets, the general practitioner or family doctor is still with us and plays the same important rôle he always has.

For nine tenths of what he is called upon to do "the operating table and the microscope and the roentgen ray and the trained nurse and the mechanotherapeutist" are wholly *un*necessary; and when they are needed he usually knows where to get at them. All he asks from his school is that, under teachers who know from experience rather than theory what his life work is to be, he may get the sort of well rounded training which will enable him to keep abreast of the changing times while in city or country, with dignity and propriety, he engages in the quiet art of healing.

Such are the men who represent the backbone of our profession and for each of them there are countless devoted patients and for each patient whole families whose voice in our discussions has not as yet been heard. And were it heard, it would be, in effect, what it always has been: "So long as I am well, I forget the doctor—and his bills which he often neglects to render; but he is always there in case of need except during a vacation, something I notice he is more apt to prescribe for others than take himself."

It is to the self-sacrificing spirit of the sagacious practising doctor, not to the likes of us in this, that or the other line of special work, or the medical scientist, or the public health official that from the earliest times tribute has been paid.

> Honour the physician because of the need thou hast of him; for the most High hath created him . . . and in the sight of great men he shall be praised. All healing is from God. He hath created medicines out of the earth, whose virtue is come to the knowledge of men who shall thereby cure and allay pain.

So, in effect, in the Book of Wisdom did the son of Sirach called Ecclesiasticus admonish the average man and potential patient, who differs no whit today from some nineteen centuries ago. He is no less gullible and superstitious, no less negligent and sinful, no less certain from time to time to betake himself to a physician, from whom he expects, and usually gets, not only understanding and sympathy but an honest opinion—accompanied by emphatic directions which it is to be hoped he will follow longer than he does his own good resolutions made each New Year's eve.

A remark, easily traceable to its source, has been often repeated to the effect that the family doctor will come to be replaced and crowded out by the local health officer. Preventive measures against the spread of disease are no new thing. The very word quarantine and its mystic forty days and forty nights is lost in the darkness of oriental history long before Hygeia, the daughter of Aesculapius, was worshiped as a health-protecting divinity. Even today when we are said to be more "scientific," our legal enactments relating to the public health still apply chiefly to the transmissible diseases; and the doctor has had much to do with bringing about the sanitary well-being of the community by hammering into the ears of reluctant legislators the necessity of permanent, non-political, state-paid officers whose enlarging powers become increasingly international in scope. What the doctor asks and expects of them is that the hard won ground he has gained be held and consolidated, so he can quietly go about his preparations to gain more, by pushing out another salient when all is ready for a concerted attack.

By the combined efforts of both groups, doctor and sanitary official, the expectancy of life has been greatly prolonged—and will be more so before we are through. Yet while we point to this triumph, there are just so many more people who live longer only to be overtaken, the health official with the rest, by unforeseen and unpreventable accidents for which they seek the best surgeon they can find, or by some malady for which they demand the very best physician—like enough a highly trained specialist.

In short, for every disease from the beginning of time we have learned to escape by prevention, or to alleviate and even cure by drugs, there remain disorders beyond enumeration we cannot yet dodge because we don't know their cause. And even when this slowly and laboriously is determined for one malady after another, so that it may in turn be eliminated, would people only obey the laws of health, something else promptly crops up to take its place, for hitherto unsuspected derangements of our poor bodies are being detected and described almost daily.

Three fifths of the practice of medicine depends on common sense, a knowledge of people and of human reactions. More than half of the remainder is tech-

nological and mechanical, the work of those medically trained artisans we call surgeons. What remains may be termed preventive; and this in bulk very properly and inevitably comes to be taken over by the state, though people, being what they are, find ways of evading a disagreeable statute as in the case of compulsory vaccination—intended for others but not themselves. Not everyone obeys the traffic light and every regulation breeds its jay-walkers and its racketeers.

Legislation and attempted coercion do not always accomplish what reformers anticipate. The country's recent quixotic experience with prohibition, the most important health measure ever sanctioned by a government, however well intentioned, probably set back rather than quickened that much to be desired goal of national temperance which by natural processes was slowly gaining ground. At great expense, a commission sat long and wearily on this subject, again without coming to a unanimous voice. And finally the mass of sober, obscure people of small means, who as usual were bearing the chief expense of enforcing a law which was breeding crime and disobedience, though inarticulate, at least could vote. So almost as one they decided, in spite of the lost ground and its disheartening confusion, to take a fresh start toward the slow cultivation of national restraint in the use of intoxicants. "The fallacy," said Sumner, "of all prohibitionary, sumptuary and moral legislation to protect people against themselves is the same."

There has been much idle talk, too, regarding scientific medicine and the modern scientific doctor who with his ingenious appliances and mathematical exactitude has come to supplant the oldfashioned "practical" doctor. For hasn't he—or mostly his trained technicians — taken our blood pressure, our electrocardiograms, our basal metabolic rate, lumbar punctured us, ophthalmoscoped us, ventriculogramed us, x-rayed us from top to toe, studied under the microscope everything we can expel for him besides drawing off our blood for the same purpose, looked in all our orifices, tickled the soles of our feet, charted our calories, our calcium and phosphorus and nitrogen intake and output? It's peculiar after all that time and expense they can't seem to tell why Johnny has fits; perhaps blunt old Dr. Brown up country was right when he said that Johnny, during that attack of flu, had what *he* would call inflammation of the brain and the city doctors encephalitis lethargica—for which they charged more. But whatever it was called, he was sorry to say it couldn't have been prevented, nor was there much he or anyone else could do for it, and we'd just have to grin and bear it.

As a matter of fact, it will be a great shock to laymen to learn that a great part of what is called scientific medicine is a fetish and wholly *un*scientific. We have instruments of precision in increasing numbers with which we and our hospital assistants at untold expense make tests and take observations, the vast majority of which are but supplementary to, and as *nothing* compared with, the careful study of the patient by a keen observer using his eyes and ears and fingers and a few simple aids. The practice of medicine is an art and can never approach being a science even though it may adopt and use for its purposes certain instruments originally designed in the process of scientific research. In the case of Mary who got behind at school it has been found, to be sure, that her basal metabolic rate was minus five per cent, so she is now taking thyroid extract, and though it makes her nervous it's scientifically correct, the doctor says, and she must keep on with it.

Life is a competitive episode and, since capabilities differ and opportunities vary, some will prosper and some will not. This is sad, but it is futile to complain of these inequalities, for they are biologically inevitable. That all men are born free and equal is a noble sentiment, but in life's struggle experience shows they don't long remain so. "Liberty, equality and fraternity" is another republican shibboleth as impracticable and unattainable as the pole-star of Marxism in any social group much larger than the family and not always possible there. A somewhat more ancient idealism, expressed in another three words, may be found in the first chapter of Corinthians, and from that source the man who does his best to comfort and heal has inherited the belief that the greatest of the three is charity.

In spite of all the discouraging things they are permitted to learn about the units composing society, the doctor and the priest continue to have not only hope for but faith in their fellow men and expect them, in spite of their frailties, to be unselfish and honest till they prove themselves otherwise; whereas in trade, politics and the law, we are told, a man is primarily taken to be self-seeking until he proves the contrary. It may amount to the same thing in the end, but it at least shows a different approach; and it may partly explain why the doctor, compared with others, is known to be a poor business man. This, after all, may not be an unadmirable trait even though the dollar is taken to be the common measure of "success" in our present-day world, which looks scornfully on his financial incompetence.

I recall once being at 13 Norham Gardens in Oxford when the Regius Professor received a cable from a Maharaja in India: "Request you see son injured yesterday's polo game. God will pay the bills." The Regius promptly acted on this request, cabled reassurances to the Maharaja, and charged it up to the Almighty, already heavily in his debt. No, the doctor in the past has not been good at business and most of those who happen to possess that talent soon leave the profession for fields where they more properly belong.

Why he should refrain from forcible collection of his unpaid bills; why he does not patent some of his prescriptions, inventions and discoveries and make a fortune; why he should continue to counteract the spread of diseases he has painfully and at great educational expense learned how to diagnose and treat; why he should so strenuously oppose year after year the efforts of antivivisectionists and antivaccinationists with their Christian Science allies to cripple research and to annul statutes already on the books, knowing his calls would increase did they have their way; and why at the same time he should continue to work longer hours for less pay during a shorter life of activity than most people is an enigma to a hardheaded business man.

To be sure, business is now recognized as one of the professions in certain educational circles, but whether this will elevate the ethics of business which is fundamentally competitive rather than fraternal, or whether it will undermine the code of medicine remains to be seen. With business goes advertising, and there are few forms of it more profitable than the manufacture and sale of proprietary medicines over the same counter with candy, cosmetics and cigarets. Even science has unblushingly begun to spread her experimental discoveries in the raw before the public by fostering a lay

journal for the purpose. And since everyone is doing it, how long will the doctors continue as a class to resist? When they no longer do, and adopt the advertising methods of those parasites of the profession, the quack and the patent mediciner, God help the man of modest means and everyone else, whether below him or above him in the social scale, who may some day need a doctor.

He, the man of modest means, is at the mercy of an organized racket beside which "bootlegging" is as child's play, for that was a nocturnal game and this is played in the open. Lost somewhere in the Department of Agriculture is a Food and Drug Bureau which does its feeble best to control what is printed on the package advertisements. But only the Federal Trade Commission, which probably is composed of lawyers, could, if they saw fit, put a stop to the falsehoods the press continues to carry regarding the contents of the package. And when such a thing as an influenza epidemic comes along and every newspaper in the country is spread with advertisements of cheap proprietary sure-cures, what are the people to believe? If any embarrassing questions are asked, you may be certain that your congressman has already been instructed by a well organized lobby not to interfere with what is a profitable business.

The explanation of the doctor's seeming want of business acumen lies partly in the restraining influence of his time-honored precepts of conduct, partly in his preference to hold the respect of his own kind rather than of the financial world, and partly because inherently he's that kind of person else he wouldn't have gone into medicine in the first place. He's already done a great deal not only for the poor but for the man of modest means as well, and it is offensive to be told by a board of lay people that he's neglecting them.

I have been led to look up the records of my one hundred and fourteen medical classmates who after a three-year course were turned loose on the community now almost forty years ago. Some sixty per cent of them went promptly into general practice, and too many have broken down or died ahead of their patients. And though the survivors are modest fellows who don't like to talk even to a schoolmate about their measure of success, far less of any grudges they have against the world, what they do say runs something like this: "I'm in general practice in the small town where I was born, and proud of it. I've been sufficiently successful to raise and educate a family. I've served my country as a first lieutenant in time of war, and for a longer time my district as health commissioner in times of peace. I still retain my self-respect — with the exception of giving out liquor prescriptions. *Distinctions:* none, not even having a baby named after me, which is unusual for a country doctor. *Hobby:* my family, my patients, and a keen interest in world events."

Now to what I would chiefly call attention is that, of these graduates of forty years ago, who have lived in town or country the lives of general practitioners, a large percentage of them have served their communities in some public capacity, more often as health officer or as member of the local health board. But a basic medical education is no longer considered either desirable or necessary for the holders of such positions. The health officer must be a specialist among other specialists with which medicine is already overloaded.

Stirred by what may be accomplished in checking the spread of certain bacterial and protozoal diseases by a medically trained Gorgas or a Leonard Wood, in the hope of perpetuating their species, a vast sum of money is set aside to educate separately and by a short cut those who are to take their places, all too often political appointees, which means for all of us a little higher tax. But when it comes to the ever recurring fight against adverse legislation relating to tuberculous cattle, to compulsory vaccination, and much else, it's again the doctor, personally known in the legislator's home and with no conceivable ax to grind, who must usually come to the defence of the paid local official lest ground be lost.

I don't for a moment mean to imply that we should go back, for there's no going back. I merely wish in fairness to recall what the practitioner in the past has done to safeguard public health and to point out that the chief burden of expense, when government enters in, always falls most heavily on the same man of modest means. And could he be heard, he would probably say: "Go slow with this proposal to insure me against those innumerable ills beyond control of the health officer. It will mean an elaborate organization of persons to make the system work; some form of racket will certainly grow out of it, comparable to the veteran racket; and even should the state take it over, it comes out of my pocket just the same."

And if the average man feels uneasy over the obligation to carry some additional insurance, the doctor feels even more so from his experience, at close hand, with the system of employer's liability insurance compulsory in certain states, which is a veritable hothouse of malingering. At variable periods after a trifling injury a man reports at an ambulatory clinic or consults a doctor, sometimes a succession of doctors. Apart from his complaints, nothing is found wrong with him; but the case history is conscientiously taken and the results of the examination are recorded. Ere long the doctor finds himself summoned either by the man's lawyer or by the lawyers of an insurance company or both, to appear on a certain date with all notes of the case. It turns out that the man is suing his former employer for $10,000 damages, knowing that back of him stands an insurance company that will probably settle the case rather than have it come to trial. The man almost certainly is a malingerer, but it's always possible to find someone willing for a certain sum to testify to a one hundred per cent disability because of that bump on the head from an electric fan two years ago.

Another form of legal racket which thrives on the insurance system at the expense of the profession is the rapidly spreading prevalence of malpractice suits, particularly against surgeons, for imaginary grievances sustained, more often than not, as the outcome of some operation done purely for charity. When one asks reputable lawyers about this, they merely shrug their shoulders; and against the evil the doctor is obliged heavily to insure himself and even then may not escape. Need we wonder at the mounting costs of medical care for honest people?

The impractical doctor at this juncture, after reading the reports of the Commission, ventures, half aloud, to suggest that the most effective and least burdensome form of voluntary health insurance would be for everyone to cut in half his (or her) annual expenditure for tobacco, which would not only leave more than enough in the family budget to pay all the costs of medical care in the family but would eliminate a multitude of incapacitating nervous disorders in the bargain. To this the economist scornfully replies that such a mad scheme would be ruinous to the tobacco planter, would under-

mine the huge superstructure of industry that he carries, would put an end to the alluring illustrations of smoking females which beautify the magazines and the countryside, and though there is not a cough in a carload, one mustn't forget that the U. S. Treasury gets three cents on every package sold.

Alongside this agitation regarding the expense of doctoring has gone a careful study of the prevailing trend of medical education. And as many of us here have been, or are still, actively engaged in teaching, we have all probably asked ouselves—even ventured to ask in faculty meetings—just what are we trying to make of our medical students? Departments multiply and every teacher, if he's what he should be, believes his own field to be of major importance; and there lurks in his breast the hope that some few of the leaders in each class before him may be lured into his special subject.

From the first day, therefore, the prevailing system points toward that very thing which we now decry—overspecialization. And since science is now everywhere in the saddle and chief emphasis is laid upon it, the premedical sciences have first say and we tend more and more to carry great institutions of research as appendages to our schools, now manned in increasing numbers by teachers who have had no medical training, far less actual experience with the handling of patients.

I don't mean to say that this is all wrong and that there should be a *bouleversement;* I merely wish to point out that it makes the training of the doctor a long and highly expensive process and has had not a little to do with the expense of medical treatment. In actual fact, our schools no longer pretend that the degree of M.D. which students attain after four years prepares them for practice; we merely bring them to the point at which they must on their own initiative scramble for a hospital appointment where they hope to acquire what the school has neglected to give them — the training necessary to secure a license to practise.

With the degree, the school's responsibility — even interest—appears to end; and no school that I know of makes a consecutive and comparative study of its educational product. The surgeon in these later days who does not conscientiously follow up his cases to know what may be the ultimate outcome of the operations he performs is looked upon as an undependable routinist, and one would suppose that every medical school would wish to know what was the end-result of its teaching. In my own school, at least, there is no such record beyond what is kept for social purposes by class secretaries, so it is impossible to learn, apart from the meagre information supplied by the national directory of physicians, how many men today compared with forty years ago are attracted into the sciences, immediately take up a specialty, turn to some salaried position in public health or one of the services, or largely go as of old into general practice.[1]

There has been much lamentation about the disappearance of the family doctor but, as already shown, he's not often heard from and I am far from believing that he's a vanishing species, in spite of our scholastic neglect of him in a system, which, by over-emphasis on research and prevention, rather than on diagnosis and treatment, gives him while an undergraduate a sense of inferiority which he hopes to overcome by going quickly into a small special field of surgery or medicine, however ill prepared.

And should the report of the Lowell Committee lead our class-A medical schools to realize that for the practical requirements of the family doctor there is too much early teaching without a hint at its application, and should it lead to such a modification of the course that the prospective patient and his malady are in the student's mind and before his eyes at least for an hour or two of every day for four years instead of a scant two, society would greatly benefit, and there would be less reason to complain of the high costs of doctoring. There is every reason to believe that out of this system there would emerge just as many capable investigators who choose to devote their lives to research, just as many who feel the urge to strive for an academic career in clinical medicine, and just as many future leaders in the public health service as we now produce by the curricular program of isolated compartments now in fashion.

The physiologist complains, probably with some justice, that the principles he has laboriously taught are not sufficiently dwelt upon at ward rounds; the pharmacologist, that therapeutics is neglected; the bacteriologist, that not enough stress is laid on allergy to which a new journal is entirely devoted; and now pressure is being brought to bear to have all bedside teaching permeated with emphasis laid on *prevention,* as though this were something novel to the clinician.

A rose by any other name is just as sweet, and there has been in common English usage for the past four hundred years what the doctor has known as prophylactic (to keep guard before), meaning precautionary, medicine. And it would be a slur on the students' intelligence for a surgeon, let us say, to point out, as he has been urged to do, that he wears rubber gloves to "prevent" infecting the patient, gives the anesthetic to "prevent" pain, removes the appendix to "prevent" peritonitis, and so on, *ad infinitum.* For his own part, he sits down and has a cup of tea to "prevent" fatigue and then to "prevent" irritation keeps away from the faculty meeting where the great importance of preventive medicine will again be pointed out to him. Like many another catchword—"reconstruction," for example, which was on everyone's lips after the War—"prevention" can be very much overworked. There is only one ultimate and effectual preventive for the maladies to which flesh is heir, and that is death.

So the bewildered and harassed clinical teacher, be he physician or surgeon, can only say in rejoinder that it is futile to talk about preventing something one does not yet know how to recognize; that the short time at his disposal hardly suffices to teach the student how first to detect some few of the more common diseases and their complications; that in coming to a diagnosis the history and the physical examination of the patient are the important things and the findings of the laboratory purely subsidiary; that with more than half of the persons who have some ailment to complain of it's impossible to tell quite what is wrong so that recourse must be had to encouragement and symptomatic treatment; that the knowledge of how to deal with the sick comes only with long experience; that the man and his mental reactions to his troubles must be treated as well as the disorder itself even when its nature is clearly

1. It is quite possible that the tendency toward specialization has been considerably overdrawn. Just because a practitioner limits himself largely to internal medicine, to surgery or to obstetrics does not justify classifying him as a specialist. Every general practitioner comes to be known in his community and recognized by his fellows as possessing unusual skill, due to experience and good luck, in a certain type of cases. Hence, he is apt to be called in consultation for, let us say, the pneumonias, the fractures, or the eclampsias of his community. Because of this altogether natural process of selection even the practitioner, unless he happens to be covering his district single-handed, comes inevitably to particularize in his work with the passage of time.

recognized; in short, that the bearing of all that the student has learned in his preclinical courses, apart from a training in precision and accuracy, which he might have gotten as well in the clinic, has unfortunately nothing much to do with the vast majority of problems with which he will be confronted when he gets into practice.

Whether we have temporarily overstressed science and research in medical education and let it come to enslave us is not for anyone to say.. If it has, the day will arrive when of itself the pendulum will swing and there will be a corrective reaction, for there usually is to whatever we overdo. In France, as all know, the traditional method of instruction has been all too much the other way about, for there it has long been the custom promptly to souse the matriculant in the sea of disease from which he must flounder his way out. This he has managed somehow to do. But now the pendulum swings and there has been, as here, a much discussed movement to reorganize medical teaching to meet the demands of the changing times. Not only is it proposed to add an extra obligatory year to the medical course, making six to qualify for general practice, but two years more than that will be required of those who would take up a specialty, and when it comes to those who aspire to be operating surgeons—so dangerous to *ses concitoyens*—an additional four years.

Even this is not all. The matter has reached and been ardently discussed in the Chamber of Deputies, where the desirability of more scholarship and less science for the practising doctor has been warmly advocated. A "back to the humanities" movement has arisen which would oblige the prospective medical student before his matriculation not only to be qualified in preliminary physics, chemistry and the natural sciences, but since all good things are of Hellenic origin, he must know Greek and Latin as well!

There meanwhile has been much pointing to Sir Thomas Browne and to Rabelais and to the Linacres of the profession, as though many of us could hope to be humanists of their sort, any more than be productive investigators in the fields of present-day medical science. And while it is a subject on which a surgeon, in view of his illiterate ancestry and addiction for the vernacular, is scarcely entitled to speak, he can at least be permitted to admire and envy scholarship in his medical colleagues—even as did Paré

Professor S. E. Morison, the historian, has called my attention to the fact that at Harvard, and probably at other universities as well, medical *Questiones* in past years were publicly debated in Latin at Commencement. In 1660: *An Motus sanguinis sit Circularis?* (Is there a circulation of blood?) In 1678: *An hepar sanguificet?* (Does the liver make blood?) In 1687: *An Curatio per pulverem sympatheticum sit licita?* (Can a cure be effected by sympathetic powder?) In 1690: *An Morbi sint Contagiosi?* (Are diseases contagious?)—and so on, showing that seventeenth century laymen were interested in matters concerning which contemporary doctors, trained by the apprentice system—and not a bad system at that—were inclined to disagree.

And even at the present time, I believe that the translation of a page both of Greek and of Latin is still required of everyone who would become Fellow of the Royal College of Physicians and thereby qualify as a consultant—for how else could he use the pharmacopeia and write prescriptions, much less read the *De Motu Cordis* in the original! I was once told by Sir Henry Head that, in 1900 when both he and Robert Bridges had gone up for their fellowship examination together, they chanced to meet on leaving the hall and he asked Bridges how he had made out with his translations. Bridges replied that the stupid examiners hadn't stated what language they wanted the pages turned into, so he had translated the Latin page into Greek and the Greek into Latin.

There always has been and always will be a certain proportion of scholars and humanists in medicine—men like William Sydney Thayer, who has so recently left us—just as there will be a smattering of scientists and artists and musicians, even novelists, poets, and an occasional statesman like Clemenceau—and it will be a sad day when we all come to be cut from precisely the same piece of educational cloth. Some may happen to take their scholarship, as others pursue their hobbies, seriously, even professionally, but the curriculum has less to do with it than most of us pretend to believe.

Where now do we stand with the case before us? Sir James Paget once remarked that, so far as he could learn, he was the only person who had ever recovered from double pneumonia after nine different consultants had been called in on the case. Dame Medicine finds herself just now in a similar plight. Considering her age, she has been unusually active these past few decades and, much to her embarrassment, finds herself as "news" and altogether too much in the limelight. Being a retiring person who prefers simplicity, she has begun to show the strain of justifying the luxurious Babylonian hospitals and laboratories people of inflationary tendencies have insisted on building for her to use and give her whole time to.

Meanwhile, she has been somewhat worried by the fact that altogether too many of her offspring under the influence of the saxophone and the speak-easy have gone distinctly modern, become citified, ticker-minded, and gotten out of hand. While she has tried to console herself with the thought that this was only a temporary postbellum phase, which seemed to affect other people's children the same way, her personal responsibility in the matter was put in the hands of a commission of nineteen eminent persons for investigation. After giving them what help she could and hoping an explanation for the existing instability of the world would be found, she set about her daily tasks with customary energy and apparent good spirits.

But the real trouble began after someone persuaded her five years ago, when she was feeling sturdy enough, to submit to a physical examination—in fact, considering her recently recognized social importance, her countless dependents and retainers, not to speak of her immediate family, she should have done so of her own accord every six months at least. Why, with all her hard work these past years she probably has hypertension or something worse, which should have been taken in time!

In view of her long neglect, it must now be done thoroughly and scientifically—family, marital and past history, social environment and habits, dreams and complexes, just to start off with. High blood pressure indeed! Why, one couldn't prick or prod her anywhere without finding a sore spot. Whatever the cost, she must take a room in the medical center for a more detailed study.

With misgivings, to this opinion she reluctantly submits. A board of fifty consultants composed of experts and specialists of every sort is called in. They in turn appoint others to assemble the data necessary for a

diagnosis. Surveys are made, statistics are gathered and graphs are plotted. Twice a year to discuss and correlate the findings, the chief consultants meet, meanwhile issuing reports of progress; and being scientific rather than practical doctors, the patient is not only allowed, but encouraged, to read these protocols, and she begins to feel very shaky about herself.

It becomes perfectly evident that the family, after a fair start, has somewhere acquired a bad gene—possibly from that fellow Paracelsus. And the poor old thing has had altogether too many offspring, most of them turned loose with no sort of control. These past few months, she's not only been losing weight but showing signs of irritability and certainly should be psychoanalyzed. This so far she has flatly refused, saying it's nasty; so we must keep her in bed a while longer, perhaps a wheel chair for an hour in the afternoons, while further studies of these alarming symptoms are made.

One of her doctor sons, who for propriety's sake has been permitted to sit in with the consulting board as an observer, occasionally slips into the sickroom, pats her on the back and says: "Never mind, Mother, buck up, it will soon be over; there's not much more they can find to do, and I'm sure it's not so bad as they think. Even if it is, you've had a good fling these past forty years and the boys have asked me to say how sorry we all are not to have been a greater credit to you. But you simply *must* stop reading your clinical history and watching your temperature chart or you'll get neurasthenic. What you chiefly need is a good night's sleep."

Finally the data are all prepared; and, as usual, there is want of agreement on the diagnosis and much less, consequently, on what's to be done. The gloomy majority feel that it's a deep-seated disease and probably incurable. Birth control and a better distribution of her activities on thinly populated places might be worth trying; but before it's too late, she certainly should get insured. The more cheerful minority, who know her better, think it's just a case of nerves brought on by the times, by overwork and needless worry about some of her unruly children. One or two others, disagreeing with both of these opinions, insist that, nothing venture nothing have, it's better to be bold and operate at once, as it's the only possible way to make certain there's nothing in the pelvis—and if there isn't, there likely enough won't be.

As a compromise, someone is told off to break it to the poor old thing, considerably shattered by this time and a shadow of her former confident self, that though there is something indeterminate which is radically wrong, she may temporarily leave the clinic, on payment of the bill—now amounting to several millions—which she will find at the main office. However, if she doesn't change her general habits and manner of life, which make her a menace to society, and adjust herself to what is now an industrial world dominated by business and insurance, she'll be obliged to return for an exploratory operation, and that will cost a pretty penny.

Whereupon, with thanks for their efforts on her behalf, she ventures to suggest that everyone seems to be suffering just now from a sense of insecurity and indecision and it might be as well to wait until we pull ourselves out of this slough of depression and see just where we persons of modest means all stand before deciding on anything radical. She calls to mind what Galsworthy once said: the *statu quo* is of all things most likely to depart; the millenium, of all things, least likely to arrive. There might chance to be a war or another influenza epidemic when we would need all the doctors we have and more, and all the empty hospital beds would quickly refill.

There are two sides to every question and inability to see both constitutes the fundamental weakness of all theories and particularly those relating to the biologic and social sciences. This failure even invades what is supposed to be the most exact of all sciences, astrophysics, which supposedly deals with great abstracts. But one can approach an abstract from either side, and depending on different views of cosmogeny, the universe is either expanding at a terrifying rate or contracting no less rapidly. If both views are correct, it must therefore pulsate like a macrocosmic heart.

But however this may be, those who deal with the science of society deal with something that actually *does* pulsate with so short a time cycle that conditions almost from year to year are never quite the same, so that our theories of today are likely to need modifying tomorrow. What this puzzled world needs perhaps is more study of the past, fewer commissions and surveys of the present, and a greater number of philosophically minded, self-supporting and law-abiding persons who can see all round their particular problem and independently devote themselves to it as do most doctors and as did the little knife-maker in Langres.

And should the doctor, in moments of discouragement about the shortcomings of his own tribe, now so thoroughly ventilated as to make those he is most anxious to help have misgivings about him, need like other people a timely word of comfort, he can remember that, whatever the doctor of the future may come to be, it has been said not long ago of the doctor of his particular time—and with some small measure of truth by one who had good reason to know him well—that:

> He is the flower (such as it is) of our civilization; and when that stage of man is done with, and only remembered to be marveled at in history, he will be thought to have shared as little as any in the defects of the period, and most notably exhibited the virtues of the race. Generosity he has, such as is possible to those who practise an art, never to those who drive a trade; discretion, tested by a hundred secrets; tact, tried in a thousand embarrassments; and what are more important, Heraclean cheerfulness and courage. So it is that he brings air and cheer into the sickroom, and often enough, though not so often as he wishes, brings healing.

Discarding Useless Remedies.—The problem of discarding useless remedies is still with us, because new remedies are thrust on the medical market by drug manufacturers in increasing numbers. Many drug manufacturers in various parts of the world are now actively engaged in investigating new compounds. These investigations are expensive, and the manufacturer rightly looks to recoup himself for the expense by the profits on a new drug, if he can put it successfully on the market. Until we know more about the relations between chemical constitution and physiological action, this type of research must remain largely as a gamble, so far as concerns the discovery of a successful remedy. The testing of a new drug on the therapeutic side has often been perfunctory and done by medical men who have neither the training nor the facilities for arriving at a correct estimate of therapeutic value. This difficulty has recently been at least partly removed by the institution of the Therapeutic Trials Committee of the Medical Research Council. A manufacturer can now submit a new drug for the consideration of this committee, and the committee can, if it believes that the pharmacological indications justify a therapeutic trial, make arrangements for a scientific and thorough investigation of the therapeutic merits of the drug.—Gunn, J. A.: Remarks on the Outlook of Research in Therapeutics, *Brit. M. J.* **2**:391 (Aug. 27) 1932.

FRACTURES OF THE HUMERUS

STATISTICS AND TREATMENT IN FIVE HUNDRED CONSECUTIVE CASES

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During the period of thirty-two months from September, 1927, to April, 1930, 500 patients with fractures of the humerus were admitted and treated at the Cook County Hospital of Chicago. This great volume of material afforded an excellent opportunity for careful study, and at the same time we were able to draw definite conclusions as to the frequency of complications, the method of treating both simple and complicated fractures, and the end-results of our labor.

INCIDENCE

Fractures of the humerus compose about 5 per cent of all the fractures of the body. Stimson gives the figure at 4 per cent, von Bruns at 5 per cent, and Speed at 5.7 per cent.

In our series 233 of the fractures, or 46.6 per cent, occurred in the right arm, while 255, or 51 per cent, were in the left. Twelve, or 2.4 per cent, were unclassified.

Three hundred and sixty-five, or 73 per cent, of the fractures were in males, while the remaining 135, or 27 per cent, were in females. This relationship corresponds with that reported by Gurlt, who gave the figures many years ago at 3 to 1.

The average age of all the patients with fractures of the humerus was 36.2 years. The youngest patient was 4 months of age, and the oldest, 84 years.

Only one case of fracture of the anatomic neck of the humerus was encountered. This patient was 34 years of age.

Fractures between the anatomic and the surgical neck were classed as pertuberculous. These were six in number, or 1.2 per cent. The average age of the patients was 37 years.

Fractures of the surgical neck composed almost one third of all fractures of the humerus. One hundred and fifty-four were of this type, or 30.8 per cent. One is surprised, off hand, at such a figure. The average age of these patients was 50.3 years, 90.8 per cent being over 16.

Not one case of fracture of the lesser tuberosity occurred during the thirty-two months. The greater tuberosity was fractured in twenty-eight cases, or 5.6 per cent; ten, or 35.7 per cent, were associated with dislocations of the head of the humerus. The average age of the patients was 49.1 years, all of the patients being over 16. Speed and Stimson state that few cases of fracture of the greater tuberosity occur without dislocation of the head of the humerus, but we found this true in only one of every three cases of fracture. (The senior author is somewhat skeptical about this figure.)

Epiphyseal separation, partial or complete, occurred in nine cases, or 1.8 per cent. This included both the upper and the lower epiphysis. The average age of the patients was 11.3 years.

Read before the Chicago Society of Industrial Medicine and Surgery, Feb. 9, 1931.

There were 152 fractures of the shaft of the humerus, only 2 less than those of the surgical neck. These composed 30.4 per cent of the total. Twenty-two, or 4.4 per cent, were in the upper third; 109, or 21.8 per cent, in the middle third, and 21, or 4.2 per cent, in the lower third.

The average ages of the patients with fractures of the shaft of the humerus are given in table 1.

The apparent paradoxical relation between the decreasing ages and increasing percentage is correct, as many of the fractures of the lower third of the shaft occurred in patients between 17 and 30 years of age.

Von Bergmann states that fractures between the attachment of the pectoralis major muscle and the origin of the supinator longus muscle are the most frequent fractures of the humerus, but he quotes no figure. Riethus states that 53 per cent of all fractures of the humerus are in the shaft. Perhaps this large discrepancy as compared to our figures is a question of classification.

TABLE 1.—*Age Incidence*

Position	Age, Years	Percentage Over 16 Years
Upper third	43.3	77.3
Middle third	36.3	81.6
Lower third	33.0	94.7

There were eighty-three supracondylar fractures, or 16.6 per cent. The average age of the patients was 27.6 years. This apparently high average age was produced because several of the patients were well over 65. A truer conception is had when one finds that 67.5 per cent of the patients were under 16.

Dicondylar fractures numbered nine, or 1.8 per cent. The average age of the patients was 16.8 years, 55.6 per cent being under 16.

There were fifty-eight condylar fractures, or 11.6 per cent. This includes one or the other condyle. The average age of the patients was 13.8 years; 86 per cent were under 16. Stimson gave the statistics in table 2 on forty-eight fractures of the humerus in the vicinity of the elbow joint.

TABLE 2.—*Fractures of the Humerus (Stimson)*

Location	Cases
Supracondyloid	8
Intercondyloid	7
External condyle	15
Internal condyle	10
Internal epicondyle	8

When analyzed, the complications produced an interesting study. As complications always mean increased disability and prolonged treatment frequently associated with mutual sorrow to both the patient and the physician, they must be considered in a serious light.

Nonunion and delayed union, the most common complications, together occurred in fifteen cases, or in 3 per cent of all fractures of the humerus. It became necessary to classify these complications as one, because after a primary failure to unite the patient insisted that something be done immediately for economic reasons, so most of them were operated on prior to the four month period which separates nonunion from delayed union. It is interesting to know that all these fractures were of the middle third of the shaft. Transverse fractures were the greatest offenders, while when there were poor comminutions of the fragments, an early, firm, bony union took place.

In von Bruns' statistics of 1,274 cases of ununited fractures, there were 376 fractures of the humerus. Of 681 authentic cases of pseudarthrosis, 226 were of the humerus (33 per cent).

The combined statistics of Codivilla, Cuneo and Chutro show that fractures of the humerus result in 32 per cent of all cases of pseudarthrosis, while the tibias, which are considered by many as the most common location of pseudarthrosis, are involved in only 13 per cent.

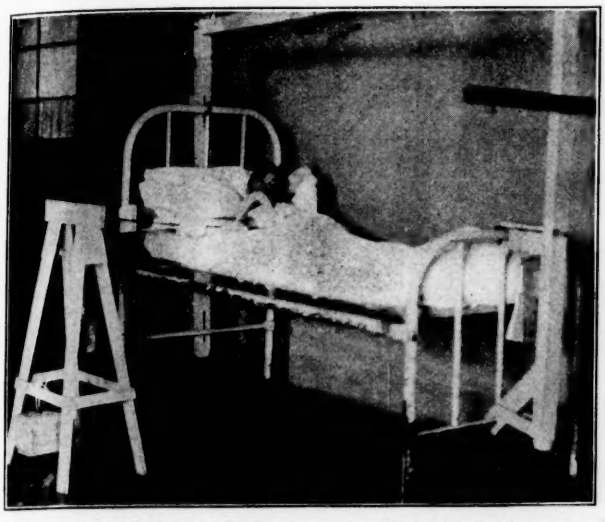

Fig. 1.—The ideal method of primary immobilization in fractures of the shaft or of the surgical neck of the humerus with displacement. Usually from 5 to 8 pounds is sufficient to produce a reduction. Later even as little as 2½ pounds of weight will hold the fragments in line and prevent unnecessary fibrosis of the elbow joint.

Radial palsies were the second most common complication. Fourteen cases were recorded, giving a proportion of 2.8 per cent of all fractures of the humerus. All these cases followed fractures of the middle third of the humerus. No cases of secondary involvement of the nerves were recorded.

When one compares the fractures of the middle third of the humerus with the radial palsies, one finds that 12.8 per cent, or about one of every eight, is associated with wrist drop. This complication was produced most commonly following spiral rather than comminuted fractures. All of our cases of radial palsy were found within two to twenty-four hours after the accident.

Surgeons distinguish anatomically between the cases in which continuity of the nerve is retained and those in which it is lost. The latter are rare. In seventy-nine cases, von Bruns found only three of this sort. In five cases in which the patients were operated on by the senior author, complete severance was never found.

Scudder and Paul reported radial palsy in 86, or 7.2 per cent, of 1,185 cases of fracture of the humerus. Von Bruns' collection of 886 cases in 1886 showed fracture of the shaft of the humerus in 53 per cent, fracture of the proximal end in 22.2 per cent and fracture of the distal third in 24.7 per cent. The latter figures of Riethus on 319 cases showed fracture of the middle portion of the humerus in 33.6 per cent, fracture of the proximal end in 35.4 per cent and fracture of the distal end in 31 per cent. In his series of cases, musculospiral paralysis occurred in 4.1 per cent. Vennat reports 13 cases in children, in 3 of which complete division of the nerve was found.

Compound fractures occurred in five cases, or 1 per cent.

Malunion (clinical, not roentgenographic, diagnosis) occurred in three cases.

Osteomyelitis developed in two cases. In one the fracture was caused by a gunshot wound, and in the other an extensive soft tissue trauma and a spiral comminuted fracture were sustained during an automobile accident.

There were two pathologic fractures. One was caused by a metastatic carcinoma of the stomach; the other, by a benign bone cyst in a boy of 5 years. Following the fracture there was a good union in the second case, and when the boy was seen eighteen months after the original accident the humerus was firm, giving no trouble, but roentgen examination showed that the cyst was about the same size.

In one case excessive callus developed following refracture of the middle third of the humerus two months after the original accident. The mass was 7 cm. in diameter at the time of the patient's discharge. There was a good union, with absolutely no signs of radial palsy. He was seen three months later, and the mass had decreased to 4 cm.

TREATMENT

The treatment of fractures of the humerus varies considerably in different institutions, and even among physicians in the same clinic. The following methods have been used by us with uniformly good results:

The only patient with fracture of the anatomic neck of the humerus who came under our observation was treated in traction for three weeks and then in a Middeldorpf triangle for two more weeks, with a good end-result anatomically and clinically.

Buchanan believes that excision of the head of the humerus is the best method of treatment. He cites fourteen cases from the literature in which two results were excellent, six good and one moderately good. There were two deaths. Although our experience has been limited to only one case, we believe that the operative removal of the fractured fragment is too radical and should be used in cases in which treatment by the conservative methods has been unsuccessful.

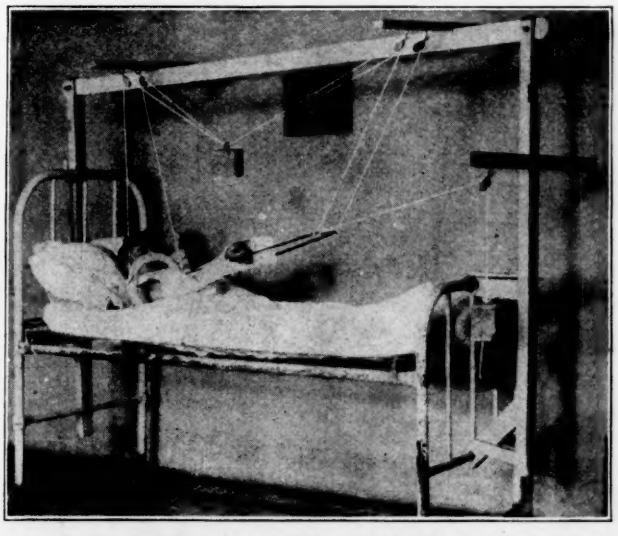

Fig. 2.—Occasionally it becomes necessary to bring the arm parallel to the body to get the best apposition of the fragments. This position is rarely required but should be kept in mind.

Unless a fracture of the surgical neck of the humerus is of the subperiosteal or impacted type in good position, which we have found not to be common, we

prefer treating the patients in traction for from three to four weeks with from 3 to 8 pounds. The weight and time depend on the size of the patient, the displacement, the age and the clinical observations in the case. The weight is decreased as the muscle spasm diminishes; as soon as sufficient callus forms to prevent recurrence of the deformity, the patient is placed in some form of ambulatory immobilization such as the airplane splint, Middeldorpf's triangle or a Velpeau bandage. After about two weeks of this immobilization, which we term secondary (the traction in a Thomas splint being called the primary immobilization), the arm is put in a sling, and guarded use is encouraged. We consider the sling the tertiary form of immobilization. Patients with subperiosteal or impacted fractures in good position may be treated by the secondary form of immobilization immediately.

We have found it of great advantage, with a decreased length of disability, to treat fractures of the surgical neck and the upper third of the humerus by the double Buck extension, one holding the forearm at right angles to the arm and the other pulling the humerus laterally at right angles to the axis of the body. These patients, even after four weeks of immobilization, may use their arms the first day the traction is removed, so good is their elbow, shoulder and wrist motion. However, in cases of fracture of the shaft of the humerus with bad displacement of the fragments, or in those of fracture of the middle and lower thirds of the humerus which are not easily held in position, straight arm extension should be used even at the expense of mobility of the elbow which may require weeks to return.

The general plan of treatment for fractures of the shaft follows rather closely the methods just discussed, the immobilization being slightly longer because the union does not occur as quickly.

In children, greenstick fractures are treated by the use of plaster, frequently in the form of a Velpeau bandage.

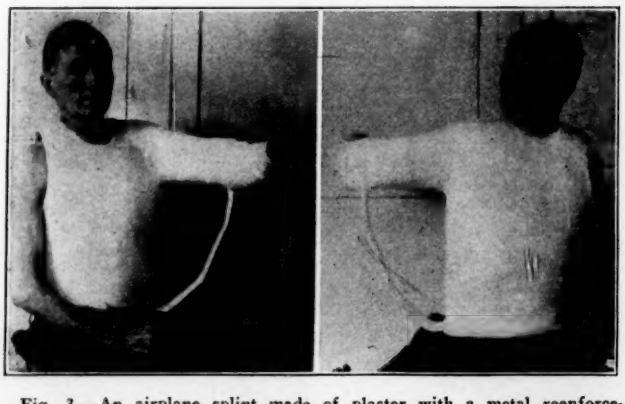

Fig. 3.—An airplane splint made of plaster with a metal reenforcement running up the thorax to the axillae—along the arm to the elbow and then down to the crest of the ilium. The cast runs low enough to be firmly fixed on the crest of the ilium. The parts at the shoulders, elbow and pelvis are padded with saddle felt to prevent pressure on the bony prominences. This is occasionally used as a primary form of immobilization, but usually as a secordary method of fixation after the patient has been taken out of traction.

Physical therapy is always used as soon as the callus appears to be clinically substantial. Diathermy may be used on the muscles while in traction to great advantage, decreasing the period of disability. However, when the quantity of material is too scanty or the institution is not free with funds, the foregoing luxury is often done without.

We have been unable to hold complete fractures of the shaft, either oblique or transverse, in satisfactory position by the use of any ambulatory method, except in a few selected cases. In fact, the results in our hands were so poor compared to the extension method in bed that we have practically abandoned it as a form of primary immobilization. As a form of secondary splinting, after the callus and alinement have been satisfactorily produced by the recumbent method, the ambulatory methods are ideal (airplane splints, Robert Jones splint, Middeldorpf's triangle or plaster).

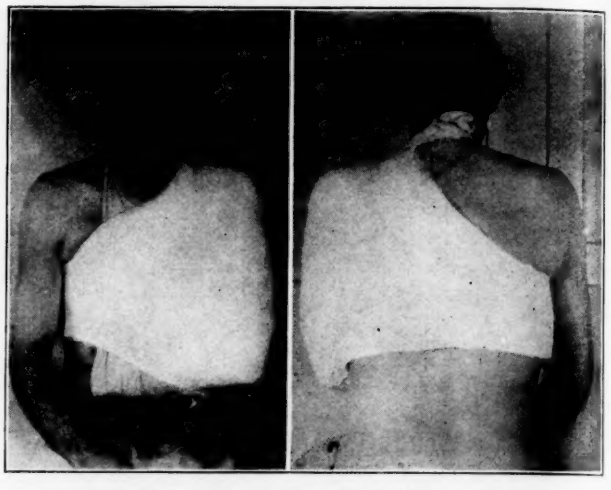

Fig. 4.—A modified Velpeau bandage of plaster applied over a sling, used as an excellent postoperative form of immobilization for fractures of the humerus. Sheet wadding is first applied so as to cover all bony points; then only three rolls of 6 inch plaster, 10 feet long, are used, thereby giving the cast a pliable consistency; it is comfortable to lie on. More plaster than this makes it too rigid for absolute comfort.

Fractures of the greater tuberosity numbered twenty-eight, ten being associated with dislocations. All the patients were treated conservatively. One case later required operative removal because of restricted abduction. After reduction, nearly all of the patients had good approximation of the detached fragment if the humerus was abducted to 45 degrees. Few cases required 90 degrees abduction. We were unable to confirm the opinion of some investigators that the evulsed fragment is always pulled away to the extent of maximum abduction of the humerus. Much to our amusement, several of the fractures remained in excellent position after the dislocation had been reduced by merely immobilizing the humerus along the thorax in a Velpeau bandage of plaster. To us, this was a revelation, after hearing so much talk to the contrary from some of our colleagues.

Supracondylar fractures were uniformly well reduced if seen early, by first hyperextending the elbow and pulling the distal fragment down to its normal position, and then correcting the posterior displacement and bringing the forearm into acute flexion and complete supination. This position is then held either by adhesive strips, or by a posterior molded splint for from fourteen to twenty-one days, followed by gradual extension and passive motion. Passive motion and later active motion are used, depending on the age of the patient and the clinical observations in the case.

Occasionally, fractures of the condyles or epicondyles require operative treatment owing to persistent displacement. We prefer catgut suture to the periosteum in young patients, while in older patients a screw is frequently inserted and later removed.

Of the 500 patients, 472, or 94.4 per cent, were treated with the closed methods. Operations were performed in all cases in which the conservative methods had not obtained the desired result. It was necessary to operate in only twenty-eight cases. The indication and the type of operation are listed in table 3.

TABLE 3.—*Indications and Type of Operation in Twenty-Eight Cases*

Indication	Cases
Nonunion	15
Displaced condyle	8
Fracture dislocation	3
Fracture of greater tuberosity with limited abduction	1
Osteomyelitis	1
Total	28
Operation	
Intramedullary bone peg	11
Intramedullary bone peg with osteal-periosteal grafts	4
Pegging of condyle	2
Removal of condyle	2
Removal of excess callus	2
Onlay graft	1
Removal of greater tuberosity	1
Insertion of screw into head of humerus	1
Sequestrectomy	1
Removal of Sherman plate	1
Resection of head of humerus	1
No mention	1
Total	28

One will readily note the apparent lack of the use of foreign bodies as forms of internal fixation. We have found by experience that they frequently lead to trouble, and unless they are removed soon after they have completed their cycle of use they many times give rise to trouble years later.

Until a year ago, when performing open reduction on the shaft of the humerus, we were accustomed to strip the periosteum loose from the humerus and quickly angulate the ends of the bone through the wound. We did this readily by the use of Lane elevators, being careful of the radial nerve, and staying close to the bone. After the insertion of an intramedullary bone peg, it was found that the fragments had too much range of motion in spite of the internal form of fixation. On one occasion we carefully preserved the posterior periosteum instead of tearing it in the usual manner. After the insertion of the peg, we found that by pulling the elbow forward the posterior periosteum acted like a taut rubber band; the more tension that was placed on it, the more firmly was the fracture immobilized. This method was so highly satisfactory that we have used it in every case in which the conditions have been favorable. After the wound has been closed and the dressings applied, a Velpeau bandage of plaster is applied, and the immobilization is excellent. We are offering this trick to the medical profession, hoping that those who are having the same difficulty with immobilization by internal fixation as we had will find it of value.

Fig. 5.—*A*, a modified Middeldorpf triangle made of boxwood, held together by adhesive tape and then padded so as to not become uncomfortable. We never make it more than 5 inches on a side, and usually it is made as an isosceles triangle. After it is fitted into the axilla, it is snugly wrapped with bias army style bandage. *B*, after the triangle has been firmly applied, a sling is worn. The patient can judicially use the elbow, wrist and fingers while the fragments are held practically immobile, especially if the fracture is of the upper third of the humerus.

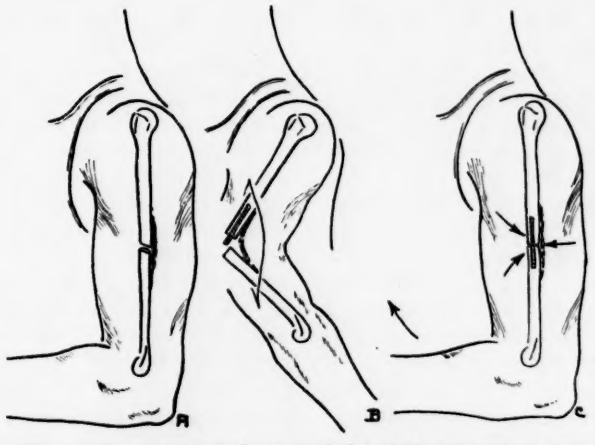

Fig. 6.—*A*, a transverse fracture of the middle third of the humerus with the posterior periosteum carefully preserved so as to be used later as a splint. *B*, the fragments have been angulated out of the wound. The posterior periosteum has been preserved and the autogenous intramedullary peg inserted. *C*, the fragments have been straightened into their normal position, and the intramedullary peg has been pushed equally into the two fragments. The forearm has been flexed to a right angle, bringing the fractured ends snugly against the posterior periosteum, which acts as a splint, preventing any possible posterior angulation. The arm is then immobilized in a Velpeau bandage of plaster of paris.

CONCLUSIONS

1. Fractures of the upper two thirds of the humerus are more common in adults, while those of the lower third are more common in children.

2. Fractures of the surgical neck of the humerus are more numerous than any other one type of fracture of the humerus (in our series).

3. Open reduction was required in one of every eighteen cases.

4. Nonunion and delayed union occurred in one of every thirty-three cases.

5. Radial palsy was found in one of every thirty-four cases of fracture of the humerus, or in one of every eight cases of fracture of the middle third of the humerus.

6. Complications of some type occurred in one of every nine cases of all fractures of the humerus.

7. Fractures of the surgical neck and the shaft of the humerus were best treated by: primary immobilization, or traction, for from three to four weeks; secondary immobilization with Middeldorpf's triangle, an airplane splint or a Velpeau bandage for two weeks; tertiary immobilization with a sling for one week, and total immobilization for from six to seven weeks.

8. Fractures of the greater tuberosity do not require 90 degrees of abduction, except in rare cases.

9. Supracondylar fractures give the best end-result if treated in maximum flexion and complete supination.

10. Foreign bodies should be avoided as much as possible in open reduction.

11. The value of preserving the posterior periosteum in open reductions for fractures of the shaft of the humerus should be kept in mind.

THE HIGHER CARBOHYDRATE DIET METHOD IN DIABETES MELLITUS

ANALYSIS OF ONE THOUSAND AND FIVE CASES

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During the past seven years we have observed the effects of diets which, so far as their carbohydrate content is concerned, are more liberal than the so-called classic or strict diabetic diets. At first, the interest of one of us (W. D. S.) in this type of diet was (1) to learn how much carbohydrate could be substituted for fat in the diet of a diabetic patient taking a constant dose of insulin, without producing glycosuria, and (2) to perfect the older diabetic diets from a nutritional standpoint. Any one who has prescribed the older diets will recognize their nutritional deficiencies. Sansum, Blatherwick and Bowden [1] reported in 1926 that they had "been able to substitute more than an equal number of grams of carbohydrate for the fat omitted." Subsequently it was observed that even greater liberality as concerns carbohydrate could be permitted the diabetic patient without apparent detriment. The improvement of the new diets over those necessary in the preinsulin era is obvious: an increased carbohydrate ratio makes possible a greater amount and variety of minerals and vitamins, and "balances" the diet to a more nearly normal, or nondiabetic, standard. Clinical experience has led us to believe that it is not only possible and practical to feed the diabetic patient a diet that approaches normal, or nondiabetic, proportions as regards the carbohydrate-fat ratio, but that it is advantageous to do so. The present study was undertaken to ascertain whether or not objective evidence obtained from the case records would substantiate this impression.

Our material consists of 1,055 cases of glycosuria admitted to the metabolic division of the Santa Barbara Cottage Hospital and to the Sansum Clinic between Jan. 1, 1925, and Jan. 1, 1932. Of these patients, who were for the most part private white patients of the upper middle class, 1,005 were considered to have true diabetes mellitus, 31 potential diabetes, and 7 renal glycosuria. The material is equally divided between the sexes, there being 504 males and 501 females. The distribution according to age is 9 in the first decade, 74 in the second, 71 in the third, 67 in the fourth, 135 in the fifth, 273 in the sixth, 281 in the seventh, 83 in the eighth and 12 in the ninth. As might be expected, over half (55.1 per cent) of all cases occurred during the sixth and seventh decades. A familial incidence was noted in the histories of 239 cases (23.9 per cent).

Ninety-five patients are known to have died prior to Jan. 1, 1932, and in eighty-one of these cases the cause of death is accurately known. Table 1 lists the cause of death and the average age at death of the patients in each group. Uncomplicated coma has not been a cause of death since 1925. The ages of the two patients who died in that year and in whom no other cause for death except coma could be found were 8 and 15 years.

From the Santa Barbara Cottage Hospital and the Sansum Clinic.

1. Sansum, W. D.; Blatherwick, N. R., and Bowden, Ruth: The Use of Higher Carbohydrate Diets in the Treatment of Diabetes Mellitus, J. A. M. A. **86**: 178 (Jan. 16) 1926.

The shift from coma to arteriosclerosis as the chief cause of death among diabetic patients has been a conspicuous feature of recent mortality statistics (Joslin,[2] Warren,[3] Leutengegger [4] and others). Arteriosclerosis appears as the chief single cause of deaths (40 per cent) in our series. The average age at death in this group was 63 years.

ARTERIOSCLEROSIS

The distribution of arteriosclerosis among these cases has been computed by decades and for the duration of diabetes. All three of the usual criteria for recognizing the presence of arteriosclerosis have been used: (1) pathologic evidence from postmortem examination of fatal cases, (2) roentgen evidence of calcification of arteries, and (3) clinical evidence of visible changes in the retinal vessels, palpable thickening of peripheral vessels and persistent hypertension. Since all the fatal cases are included in this study,[5] it is weighted in favor of arteriosclerosis. An increasing incidence of arteriosclerosis by decades is apparent. Only two cases were noted before the fourth decade. From there on, the increase is definite and constant each decade until 100 per cent is reached in the ninth decade. No comparable rate of increase, however, is noted in the groups representing the duration of diabetes. The percentage of patients exhibiting arteriosclerosis whose diabetes was of less than two years' duration was practically the same as those whose diabetes was from six to ten years' duration, as shown in the accompanying chart. This finding is in general agreement with Leutengegger's [4] work and suggests that arteriosclerosis is more closely correlated with age than with the duration of diabetes.

TABLE 1.—*Causes of Death in Diabetes Mellitus with Average Age at Death*

		Number of Cases	Per Cent	Average Age
All causes		95	100	55
1. Coma:				
a. Alone	2			
b. Complicated	8	10	10.5	35
2. Cardiorenal-Vascular Disease:				
a. Cardiac	23			
b. Nephritic	1			
c. Arteriosclerosis	10			
d. Gangrene	4	38	40	63
3. Pulmonary tuberculosis		11	11.6	39
4. Infections:				
a. Pneumonia	4			
b. Others	3	7	7.4	54
5. Cancer		9	9.5	61
6. Miscellaneous:				
a. Suicide	2			
b. Cirrhosis of liver	1			
c. Pulmonary edema	1			
d. Shock	2			
e. Undetermined	14	20	21	56

The prevalence of arteriosclerosis and its sequelae among diabetic patients is well known. The elaborate clinical studies of Joslin [2] indicate that arteriosclerosis appears prematurely among sufferers from this disease. Warren [3] also states that pathologic evidence of arteriosclerosis was present in all cases of his series in which diabetes had been present for five years. However, he admits that his series is not typical of insulin-treated

2. Joslin, E. P.: The Treatment of Diabetes Mellitus, Philadelphia, Lea & Febiger, 1928.

3. Warren, Shields: The Pathology of Diabetes Mellitus, Philadelphia, Lea & Febiger, 1930.

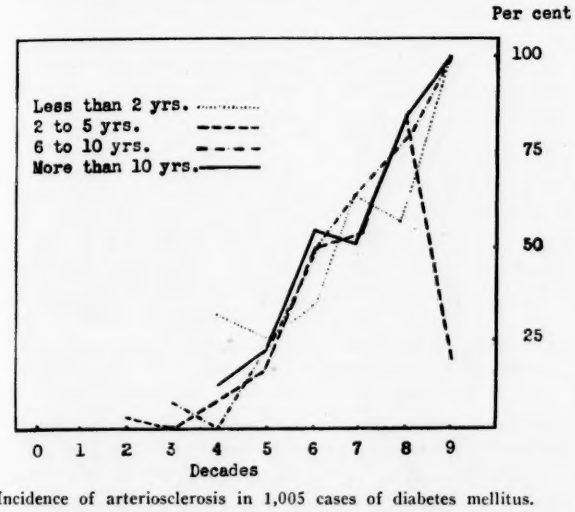
4. Leutengegger, F.: Diabetes Mellitus und Gegaszsystem, Ztschr. f. klin. Med. **119**: 164, 1931.

5. Tables 2 and 5, which have been omitted from this publication, are included in the reprints, which the authors will be glad to send on request.

cases. One could scarcely expect two series of cases to be completely comparable, when one is selected from a pathologic and another from a clinical point of view. Pathologic criteria are certainly more exacting than either roentgen or clinical criteria. Clinical series would probably not reveal so much arteriosclerosis as would appear in pathologic series. Early sclerotic change of the arteries, particularly of the aorta, would naturally be missed by clinical examination but would appear in any series of pathologic studies. However, the relatively low incidence of arteriosclerosis in our series and in Leutengegger's [4] series before the fifth decade, even in cases of long duration, may indicate a new phase in the history of diabetic management. Adequate insulin therapy may be changing the general picture. Also, we even dare to hope that more adequate nutrition, made possible by insulin, will arrest in the early stages the arteriosclerotic changes of the young diabetic individual.

NATURE OF THE DIET

There is considerable lack of understanding and some misunderstanding of the nature of higher carbohydrate diets. A higher carbohydrate diet does not mean an unlimited or "free choice" diet such as Stolte [6] has recently advocated. Table 3 shows the average type of diet that has been used during the period covered by this study in each type of diabetes. In each group the number of grams of carbohydrate has averaged slightly more than twice that of fat used. The tendency during the last few years has been to use from 3 to 4 Gm. of carbohydrate per gram of fat without any change in the calory-to-kilogram ratio. The adults have received 30 or less calories per kilogram except when such complications as extreme malnutrition, tuberculosis or hyperthyroidism have been present. With children, we have been more liberal. The average diet served to all patients in the metabolic division of the Santa Barbara Cottage Hospital in 1926 was carbohydrate 206, protein 79, and fat 99, totaling 2,031 calories; in 1931 it was carbohydrate 184, protein 66, and fat 82, totaling 1,738 calories. We do not believe that this represents the degree of overfeeding that our critics have assumed.



Incidence of arteriosclerosis in 1,005 cases of diabetes mellitus.

In the preparation of the diets, all staple foods except cane sugar, honey, and foods sweetened with any of these are employed. Aside from this restriction, the patient may select what particular foods he likes within the limitations imposed by the diet formula. In the institution, all diets are weighed, and the patients are encouraged to continue this practice at home. Fruits, vegetables, milk, eggs, meat, bacon, bread, cereals, butter, cream and salad dressings constitute the diet. The variety of foods offered adds attractiveness to the meals and helps to reduce to a minimum the feeling of "being on a diet." Adequate amounts and variety of minerals and vitamins are provided for on each diet. In short, each diet is as nearly adequate nutritionally as it can be made under the circumstances.

TABLE 3.—*Average Diet and Insulin Requirement*

Diabetic Type	Age	Weight, Kg.	Diet: Carbohydrate	Diet: Protein	Diet: Fat	Diet: Calories	Diet: Cal./Kg.	Insulin Units	Per Cent Discontinued Insulin
Juvenile	14	41.5	228	80	104	2,168	51	63	0.1
Adult (with insulin)	53	63	204	71	91	1,919	31.8	45	10.6
Adult (without insulin)	58	75	178	65	71	1,511	23.8	0	

Reluctance to accept the higher carbohydrate principle in planning diabetic diets has frequently rested on a fear lest these diets might require impossible amounts of insulin daily. Unfortunately, the early reports from this clinic dealt with severe and complicated cases principally [1] when larger doses of insulin were necessary. From table 3 it may be seen that our average child received 63 units of insulin daily and our average adult who took insulin, 45 units. All patients who used insulin for only a few days were excluded from this table. Only one of our children has been able to discontinue insulin entirely. To date, about 10 per cent of the adults who have taken insulin regularly have been able to discontinue its use. All save a very few of these patients live at a considerable distance from the clinic, so that the factor of personal supervision does not figure in our statistics as largely as it does in those from clinics that have a large local clientele. The non-insulin group represented naturally an older and more obese group in whom the disease would naturally tend to be milder.

END-RESULTS

We believe that the seven-year period covered by this study is a sufficient length of time in which to evaluate adequately the usefulness of the higher carbohydrate diets. All patients included in this study received such diets throughout their period of treatment. Seventy were under continuous observation for the entire seven years, 16 for six years, 43 for five years, 57 for four years, 97 for three years, 115 for two years, 177 for one year, and 430 for less than one year. No case was included which did not receive treatment for at least one week.

TABLE 4.—*Seventy Cases of Diabetes Mellitus Treated with Higher Carbohydrate Diets Continuously for Seven Years*

	Controlled	Partially Controlled	Uncontrolled
Number of cases	21	44	5
Average age (now)	58	46	32
Carbohydrate, Gm. (last diet)	226	239	241
Cal./Kg. (last diet)	32	36	39
Insulin units	43	43	61

6. Stolte, K.: Freie Diät beim Diabetes, Med. Klin. **27**: 831 (June 5) 1931.

Questions that have arisen during the course of this study are:

1. Can diabetic patients partake of liberal diets without detriment to their metabolism or without excessive amounts of insulin?
2. Have these diets influenced the complications of diabetes?
3. Have they facilitated normal development of the children?
4. What is the patient's reaction to such diets?
5. Has demonstrable improvement in the patient's sugar tolerance accrued from this method of treatment?

In order to gain information regarding the end-results of this type of treatment, we have studied the records of those patients known to have used this type of diet exclusively for seven years. All these patients were communicated with recently in order to learn their present status. Table 4 shows the proportion of the cases which we consider to be satisfactorily or partially controlled and those uncontrolled. By satisfactory control we mean persistent maintenance of both a normal blood sugar level and sugar-free urine specimens. By partial control we mean occasional glycosuria or hyperglycemia. Uncontrolled implies persistent glycosuria and hyperglycemia. It is apparent from table 4 that the majority of these cases are, according to our arbitrary standard, only partially controlled. Several factors are involved here, among which are the distaste with which diabetic patients of long standing regard the continuance of weighing their diets while taking insulin, and the well known difficulty of persuading children and young adolescents of the advisability of making themselves conspicuously different from their associates as regards eating, in the interests of their health. Although the majority of the cases fall within our classification of partially controlled, it does not follow that for them the higher carbohydrate diet has been a failure. Physical vigor, mental alertness and social usefulness do not always register on metabolic progress records. Failure to show adequate laboratory control may also mean failure to apply in daily life principles learned in the diabetic classroom. The enthusiasm that the patients feel about our diet method is both gratifying and flattering. The feeling of robust health reported by the patients would in itself recommend this method. However, in order to be as objective as possible, we have confined ourselves solely to recorded laboratory data.

Our records are sufficiently complete on seventy of the original patients who received the higher carbohydrate diet in 1925 to justify critical analysis. All these patients have used the higher carbohydrate diet exclusively for seven years. A record of the age, weight, diet and insulin dose of each of these patients when they first became stabilized on the higher carbohydrate diet (first column) and the corresponding data when last examined (second column) are given in table 5.[5] That an improvement in tolerance as measured by a lower insulin dosage, an increased diet, or both, has been frequent among these patients is apparent from a comparison of these two columns. In forty cases (57.1 per cent) there has been a reduction in the insulin dose either on the same diet or on one of greater caloric value. One patient has been able to increase his diet on the same insulin dosage, and another, who did not receive insulin, has been able to increase his diet without insulin. In ten cases (14.3 per cent) the insulin dosage today is higher than it was at the beginning of the period of treatment, but the diets are also greater. Two patients (2.8 per cent) have had to increase their insulin dosage, either on the same diet which they took in 1925 or on one of lower caloric value. Fourteen cases (20 per cent) today require less insulin than they did five years or more ago, but at the same time the daily caloric intake is lower. The reductions in diet and in insulin dosage are not parallel in all cases. One patient now receives a lower diet with the same insulin dosage, while another, a noninsulin patient, shows a reduction in the diet. The lowering of the caloric intake in many of these cases does not mean loss of tolerance but merely indicates the general trend of management in recent years toward lower caloric diets, as may also be seen from the shift in our average diet of 2,031 calories in 1925 to 1,738 calories in 1931. Finally, in forty-two cases (60 per cent) there has been demonstrable evidence of improved tolerance during the period of time covered by this study.

Nine of the group who have used the higher carbohydrate diet continuously for seven years are children. Separate data of their status are presented in table 6. Only one of these nine children has lived up to our criteria for adequate control; hence most of them appear in table 4 among the partially controlled and uncontrolled cases. The fasting blood sugar level of the juvenile cases has been uniformly high except when a nocturnal dose of insulin has been taken. In many cases we have intentionally allowed children to pass some sugar in the urine in order to prevent hypoglycemic shock while at school. Our margin is usually less than 10 Gm. in the twenty-four hour specimen. Of the nine children, two have been admitted in coma, one twice and the other once. While some reduction in insulin dosage has been the rule, the amount of reduction is probably not of the magnitude indicated in the chart. Readmissions would naturally follow some break in the diet or some acute infection, with subsequent loss of tolerance.

TABLE 6.—*Children Treated with Higher Carbohydrate Diets Continuously for Seven Years*

Patient	Present Age, Years	Present Weight, Kg.	Present Height, Cm.	Present Diet, Calories	Maximum Insulin, Units	Present Insulin, Units
1	9	23.2	121.9	1,600	39	27
2	10	28.2	128.6	1,800	56	22
3	11	47.7	152.4	1,518	40	0
4	14	31.8	124.5	2,203	80	59
5	15	63.4	159.0	2,695	93	87
6	16	58.0	162.5	1,999	75	75
7	17	56.4	153.1	825	88	30
8	18	58.8	160.0	.....*	126	50
9	22	69.0	?	.....*	212	100

* General unweighed diet.

It has been a real pleasure to note that the skeletal development of our children has not been appreciably retarded. Gray and Geyman[7] failed to note the retarding effect of diabetes on osseous development, described by Joslin and his co-workers.[2] Priesel and Wagner[8] also found normal development among their children. We are not prepared to claim that this improvement in osseous development is an exclusive virtue of the higher carbohydrate method; it is probably as much a result of feeding diets of greater caloric value. We suspect that when diets adequate in all nutritional requirements and insulin in appropriate amounts are employed, the

7. Gray and Geyman: Unpublished data.
8. Priesel, Richard, and Wagner, Richard: Körperbau, Wachstum, und Entwicklung diabetischer Kinder, Ztschr. f. Kinderh. **41**: 267, 1926.

development of children will progress at a normal pace. One of the triumphs of insulin is that it makes nutritionally adequate diets possible.

In order to illustrate briefly the results obtained, we wish to present synopses of the records of a few of the cases listed in table 5. These four cases were once treated in the Santa Barbara Cottage Hospital with a high fat, low carbohydrate diet, and some comparison between the low carbohydrate period and the high carbohydrate period in the same person is possible.

CASE 1.—C. C., a man, aged 63, with no familial incidence, had had diabetes since he was 49 (1918). Neuritis was the only complication. The patient's previous diseases had been tonsillitis, sinusitis and sunstroke.

In April, 1924, the patient weighed 69.7 Kg., and on a diet consisting of carbohydrate 91, protein 79 and fat 193, totaling 2,417 calories, the urine was sugar free with 120 units of insulin daily. He was then changed to a high carbohydrate ratio, and eight years later, in 1932, he weighed 66.8 Kg. and showed no urine sugar on a diet containing carbohydrate 224, protein 84 and fat 121, totaling 2,401 calories, with 60 units of insulin daily.

In this particular case the carbohydrate content of the diet was more than doubled; yet the insulin dosage was cut in half.

CASE 2.—B. H., a man, aged 27, no familial incidence, had had diabetes since he was 17 (1922). There were no complications, and there had been no previous diseases.

In June, 1923, the patient weighed 57.5 Kg. and on a diet consisting of carbohydrate 77, protein 65 and fat 182, totaling 2,206 calories, the urine was sugar free with 171 units of insulin daily. Nine years later, on the high carbohydrate diet, the weight was 62.2 Kg. and on a diet of carbohydrate 199, protein 98 and fat 107, totaling 2,151 calories, the urine was sugar free with 30 units of insulin daily.

In this instance, on a diet of about the same caloric value the carbohydrate content was more than doubled; yet the insulin requirement was materially reduced.

CASE 3.—Miss M. F., aged 38, had had diabetes since she was 30 (1922). There were no complications. There was a previous history of lipoma. One brother had diabetes.

In 1923, the patient weighed 52 Kg. and on a diet consisting of carbohydrate 93, protein 80 and fat 219, totaling 2,663 calories, the urine was sugar free with 30 units of insulin daily. Three years later, in 1926, the caloric value of the diet had been reduced to 1,884 with carbohydrate 232; the urine contained 15 Gm. of sugar with 70 units of insulin. In 1932, on approximately the same diet, the insulin requirement had fallen to 34 units.

CASE 4.—Mrs. M. F., aged 69, had one sister who had died of diabetes. The patient had had diabetes since she was 59 (1923). There were no complications. There was a previous history of otitis media and sinusitis.

In January, 1925, the patient weighed 63 Kg., and on a diet of carbohydrate 93, protein 71 and fat 93, totaling 1,493 calories, the urine was sugar free without insulin. In 1925 the patient was sugar free on a high carbohydrate diet of carbohydrate 189, protein 78 and fat 94, totaling 1,914 calories, with 24 units of insulin daily. Seven years later the diet consisted of carbohydrate 178, protein 67, and fat 59, totaling 1,511 calories, and the patient, who now weighed but 1 Kg. more, required 25 units of insulin daily.

COMMENT

In prescribing higher carbohydrate diets, no distinction has been made between the insulin and the non-insulin patients. Insulin has been prescribed only when the patient was unable to metabolize an adequate diet without persistent glycosuria or prolonged hyperglycemia. A preliminary period of undernutrition was practiced during the early part of the period covered by this study but has since been abandoned as unnecessarily prolonging hospitalization. The diets prescribed have fallen into three general groups: (1) maintenance, (2) "weight-reducing" and (3) "weight-gaining." By a maintenance diet we mean one that will maintain body weight constant at a level about 10 per cent below the average allowed in actuary tables for age, sex and height. For adults, we have found 30 calories per kilogram of body weight sufficient. Many patients even maintain their weight for long periods of time on less without apparent detriment. Our children have received from 45 to 80 calories per kilogram of body weight, depending on their age.

As the average diets listed in table 3 indicate, we have used diet formulas containing 2 Gm. of carbohydrate to 1 Gm. of fat during the major part of the past seven years. For the past two years we have experimented with formulas having a carbohydrate to fat ratio of 3:1 and 4:1. Patients with mild diabetes have done well on such formulas; patients with severe diabetes have not. Even when low caloric diets such as reported by Rabinowitch [9] have been prescribed, 4:1 ratios have not in our experience proved satisfactory in severe cases. We have found high fasting blood sugar levels and disturbing hypoglycemic shock to be common. Since the appearance of the first report from this clinic, a number of American and foreign clinicians have reported their individual experiences with higher carbohydrate diets (Adlersberg and Porges,[10] Geyelin,[11] Barach,[12] Richardson,[13] Poulton,[14] Short,[15] Stolte,[6] Rabinowitch,[9] Don,[16] Nixon,[17] Himsworth,[18] Bang [19] and Thomas and Howard [20]). The common denominator of all these reports is the increased "feeling of fitness," mental alertness and physical vigor. That such desirable subjective values can be purchased at a moderate cost in insulin, our own observations and those of other clinicians demonstrate. Kestermann,[21] who has applied Stolte's "free choice diet" to adults, also reports an increased sense of strength and well being, together with improvement in the patient's tolerance. We approve in general of Kestermann's liberal use of carbohydrate in his diets (from 300 to 400 Gm.). We have, however, been fortunate in the past few years in that only infrequently have we found it necessary to prescribe doses of insulin as large as he has.

A recent summary published by Adlersberg [22] presents his experience with the higher carbohydrate diet method and his evidence that improvement in tolerance, as measured by a reduction in insulin dosage or an

9. Rabinowitch, I. M.: The Present Status of the High Carbohydrate Low Caloric Diets for the Treatment of Diabetes, Canad. M. A. J. **26**: 141 (Feb.) 1932.
10. Adlersberg, D., and Porges, Otto: Weitere Erfahrungen über die Behandlung des Diabetes Mellitus mit fettarmer Diät, Klin. Wchnschr. **6**: 2371 (Dec. 10) 1927; Ueber die Diätbehandlung der Zuckerkrankheit mit fettarmer Kost, ibid. **7**: 1503 (Aug. 5) 1928.
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12. Barach, J. H.: Lower Fat Diet in Diabetes, Ann. Int. Med. **4**: 599 (Dec.) 1930.
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16. Don, C. S.: The Progress of Insulin Diabetics on a Liberal Carbohydrate Diet, Brit. M. J. **2**: 52 (July 9) 1932.
17. Nixon, J. A.: Advantages to the Diabetic of a Diet Rich in Carbohydrates, Brit. M. J. **1**: 326 (Feb. 22) 1930.
18. Himsworth, H. P.: Recent Advances in the Treatment of Diabetes, Lancet **2**: 978 (Oct. 31) 1931.
19. Bang, Olaf: Treatment of Diabetes with Diet Rich in Carbohydrate, Verhandl. d. XIV. Nord. Kongress f. Inn. Med., 1929, p. 25, and Norsk mag. f. laegevidensk. **90**: 1179 (Nov.) 1929.
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21. Kestermann, E.: Zur Frage der frei gewählten Kost beim Diabetes Mellitus des Erwachsenen, Ztschr. f. klin. Med. **119**: 727, 1932.
22. Adlersberg, D.: Fettreiche oder fettarme Ernährung des Diabetikers? J. A. Barth, 1932, reprinted from Zentralbl. f. inn. Med. **53**: 401 (April 2); 433 (April 9) 1932.

increased diet, occurs when the fat content of the diabetic diet is reduced and the carbohydrate content is correspondingly increased. That such improvement in diabetic tolerance follows the prescription of a higher carbohydrate diet has been noted repeatedly by the authors mentioned. As yet, however, no satisfactory explanation of the mechanism by which this improvement occurs has been offered. Porges and Adlersberg [10] originally attributed it to a change from a liver rich in fat and poor in glycogen to one low in fat and rich in glycogen. Needless to say, this explanation, although highly attractive and stimulating, is purely theoretical. In his last publication, Adlersberg himself attributes little to it. An alternative hypothesis is that the taking of increased carbohydrate stimulates the secretion of endogenous insulin. Some evidence for this has been advanced by Porges and Adlersberg,[10] Sweeney,[23] ourselves [24] and others. If true, it might be possible, reasoning a priori, to stimulate the pancreas to the point of exhaustion. With this possibility in mind we have examined carefully the records of those cases in which the higher carbohydrate diet was known to have been followed for seven years. Among these patients, if in any, one might expect to find evidence of exhaustion. Most of the patients showed a gain in tolerance when this diet method was used. In the case of the children, this gain occurred in spite of gains in body weight up to 100 per cent of the original weight. Adlersberg has claimed that overfeeding per se is not detrimental to diabetic tolerance but that overfeeding with fat is. In test periods of a few months' duration he has caused patients to gain weight with a high caloric, high carbohydrate diet and still has reduced their insulin dosage. Table 5 presents evidence of essentially the same thing over a period of years. This seems to answer satisfactorily and affirmatively the question raised at the outset of this paper, that it is not only possible and practical but also advantageous to feed the diabetic patient a diet that approaches a normal carbohydrate-fat ratio.

Don [16] has recently reported on a group of sixty-one cases observed for from two to six years on diets providing up to 190 Gm. of carbohydrate. In seventeen of these cases the dosage of insulin could be reduced; in twenty it had to be increased, while in twenty-four it was stationary.

An objection has been raised that the beneficial effect of this diet method is not the relative increase in carbohydrate but the relative reduction in fat. The observations of Czoniczer and Kolta [25] are the only ones that have come to our attention in which this question has been studied with equicaloric diets of constant protein content. These investigators found that the patient's tolerance rose equally well when liberal amounts of carbohydrate were permitted, whether very low or only moderately low (100 Gm.) amounts of fat were employed. From this, one might assume that the relative increase in carbohydrate is the responsible factor.

SUMMARY

One thousand and five cases of true diabetes mellitus were treated with the higher carbohydrate diet method between Jan. 1, 1925, and Jan. 1, 1932.

Arteriosclerosis has been the chief single cause of death. The incidence of arteriosclerosis seems to be more closely related to the age of the patient than to the duration of the diabetes.

An improvement in sugar tolerance, as measured by either an increased diet or a reduced insulin dosage, was found in forty-two of seventy cases in which this diet had been used for seven years continuously. All patients reported a sense of increased well being and physical fitness.

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24. Gray, P. A., and Sansum, W. D.: An Unusual Effect of a Carbohydrate-Rich, Fat-Poor Diabetic Diet: Report of a Case, Endocrinology **15**: 234 (May-June) 1931.

25. Czoniczer, G., and Kolta, E.: Der Einflusz der kohlenhydratreichen Diät auf die Toleranz der Zuckerkranken, Med. Klin. **28**: 752 (May 27) 1932.

IMMEDIATE PNEUMOCOCCUS TYPING DIRECTLY FROM SPUTUM BY THE NEUFELD REACTION

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In recent years, pneumococcus typing has come to be a frequently performed clinical laboratory procedure. The definite indications for serum therapy in certain cases of lobar pneumonia render the determination of the type of invading pneumococcus essential in every case. The need for a simple, practical, rapid and reliable method has been recognized for a long time. Many methods of pneumococcus typing have been devised, but the one most commonly and successfully used was that in which the peritoneal exudate, obtained from a mouse on an average of from eighteen to twenty-four hours after injection of the sputum, was tested for agglutination with the various typing serums. In 1929, a stained slide microscopic agglutination method [1] was devised which was relatively more simple and rapid, giving results about three to five hours after injection of the mouse. This method has since been widely and successfully used. My purpose in the present communication is to introduce a method that is simple and reliable, that dispenses with the use of mice, and by which a correct determination of type is possible within a few minutes after a suitable specimen of sputum has been obtained.

As far back as 1902, Neufeld [2] observed that when pneumococci are mixed with specific immune serum there occurs in addition to agglutination a "quellung" (swelling) of the peripheral zone of the organisms. In 1929, I [1] was unable to demonstrate any specific change either in the microscopic appearance or the state of aggregation of pneumococci by mixing immune serum directly with the sputum; this failure, it appears now, was due partly to the fact that fixed instead of fresh preparations were studied and partly to the type of serum that was used. In 1932, Armstrong [3] and Logan and Smeall [4] in England reported simultaneously that, when sputum is mixed with immune serum and examined in the fresh state, one can observe the specific "quellung," described by Neufeld, and that pneumo-

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2. Neufeld, F.: Ueber die Agglutination der Pneumokokken und über die Theorieen der Agglutination, Ztschr. f. Hyg. u. Infektionskr. **40**: 54, 1902.

3. Armstrong, R. R.: Immediate Pneumococcal Typing, Brit. M. J. **1**: 187 (Jan. 30) 1932.

4. Logan, W. R., and Smeall, J. T.: A Direct Method of Typing Pneumococci, Brit. M. J. **1**: 188 (Jan. 30) 1932.

coccus typing could thus frequently be performed within a few minutes. Several competent bacteriologists in this country attempted to use their method, in which sputum and serum are mixed on a slide, covered with a cover slip and examined with the high power lens (Armstrong) or the oil-immersion lens (Logan and

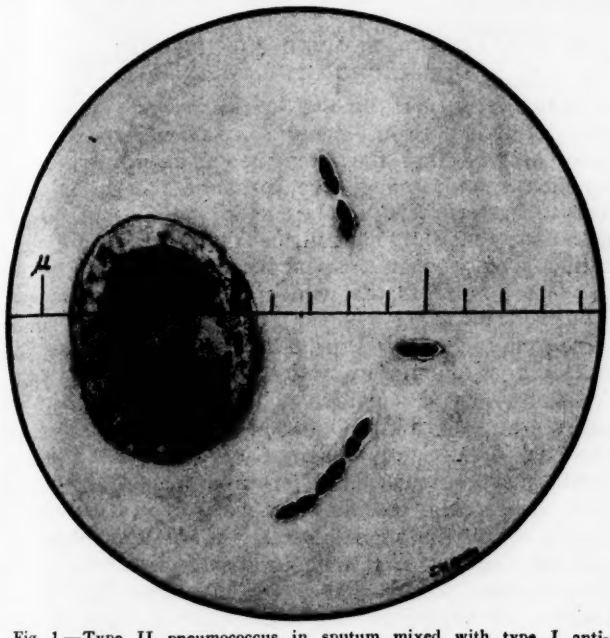

Fig. 1.—Type II pneumococcus in sputum mixed with type I antiserum (rabbit); no "quellung."

Smeall), but with little success. Some of the difficulties that were encountered were (*a*) the absence or small number of pneumococci in these preparations as well as the difficulty in finding them and (*b*) the rapid drying and frequent lack of specificity. Recently, Dr. Kenneth Goodner of the Hospital of the Rockefeller Institute for Medical Research in New York observed the method as it is carried out in Professor Neufeld's laboratory of the Robert Koch Institute in Berlin, used it successfully himself in several cases and kindly demonstrated it to me. The technic differed from that of Armstrong and of Logan and Smeall in that the mixture was stained with methylene blue, to facilitate the detection of the micro-organisms, and was examined in a hanging drop instead of spread out in a cover slip preparation. After several trials in the laboratories of the Third (New York University) Medical Division of Bellevue Hospital had been successfully performed, this study was undertaken to investigate the factors that would make the procedure more uniformly reliable and practicable. Preliminary tests revealed that the following considerations were of great importance: (1) The horse antipneumococcus serums commonly used for typing were unsuitable for this method because they frequently gave nonspecific reactions; these nonspecific reactions could not be eliminated by dilution of the serum, since the "quellung" phenomenon occurs best with undiluted serum; (2) carefully prepared rabbit serum gives absolutely specific reactions; (3) whereas crystal violet or Wright's stain fails to stain the pneumococci in this preparation, alkaline methylene blue gives excellent results, and (4) the sputum should be typed not later than one to two hours after it is coughed up, because the pneumococci autolyze very rapidly.

With these considerations in mind, the method was applied to 100 cases of lobar pneumonia in the medical wards of Bellevue Hospital. The sputum was obtained from the patient by me in each instance, and the typing was performed almost immediately thereafer. In view of the fact that from a therapeutic standpoint it was essential to know chiefly whether or not the cases were type I or type II pneumococcus pneumonias, and also because rabbit serums [5] for these two types only were available at the time, these were the only ones for which the sputums were examined. The results were checked with those obtained by the mouse methods in the bacteriologic laboratory of Bellevue Hospital.

METHOD

Two small flecks of sputum are placed on a cover slip (about 22 by 50 mm.) with a platinum loop, the diameter of which preferably does not exceed 2 mm. When the sputum is very tenacious, as it frequently is, it may be necessary to use another wire for getting the sputum off the loop. To each bit of sputum an equal quantity of the undiluted rabbit serum (type I serum to one, and type II serum to the other) and a loopful of standard alkaline methylene blue was added. A special deep, large, hollow-ground glass slide, big enough to cover both drops, was used; this special slide is convenient but not essential. The edges of the slide are smeared with petrolatum, it is placed over the cover slip, and the preparation is inverted. The examination is made with the oil-immersion lens and an artificial blue light. Although the reaction occurs almost immediately, it is best to delay the examination for about two minutes to allow for proper diffusion of the serum.

It is important to observe that ordinarily, in the hanging drop preparation, pneumococci in sputum show no capsules; occasionally a faint halo of light but without any definite outline may be seen about the organism.

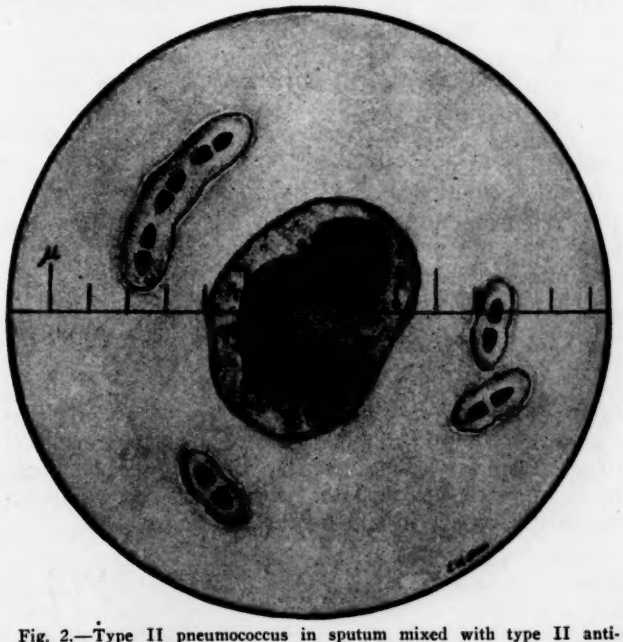

Fig. 2.—Type II pneumococcus in sputum mixed with type II antiserum (rabbit); "quellung" reaction.

However, in the type-specific mixtures of sputum and serum one finds the pneumococci surrounded by peripheral zones of characteristic appearance and distinct

5. The author is indebted to Miss Georgia Cooper of the Research Laboratories of the New York City Department of Health for the rabbit serums. These serums had been kept without a preservative for over three years; to prevent contamination, 0.5 per cent phenol was added to them during the course of this work.

outline. This peripheral zone consists of a refractile substance which does not take the stain and which may be described as having a ground-glass appearance; the organism within it is stained blue. The size of this zone of "quellung" varies in different sputums with organisms of the same type; generally, type II pneumococci presented the larger zone. It is important to stress, however, that it is not so much the size of the zone as its characteristic appearance which determines a positive reaction. It is also necessary to state that this reaction does not depend on agglutination of the pneumococci, although it occasionally occurs in the sputum, but on the appearance of the individual organisms; furthermore, this appearance is so characteristic that the finding of even a single diplococcus which shows it is sufficient to diagnose the type, as shown in the accompanying illustrations.

RESULTS

Of the 100 patients who were typed by this procedure, 31 had type I pneumococcus, 22 had type II, and 47 had neither type I nor type II in their sputums. There was not a single case of lobar pneumonia in which type I or type II pneumococcus was found by the mouse-inoculation methods that was not also found to be of the same type by this method of direct examination of the sputum. In two instances, however, a type I pneumococcus was found by this procedure when no type was obtained by the older methods. This method appears to be so specific that, when definitely positive, the results obtained by it should receive the greatest consideration. Of the forty-seven sputums that contained neither type I nor type II pneumococci by the direct method, five were found to have type V, four type III, three type XIV, two each types IV, VII, VIII and XIII, and the remainder were scattered among the other types and the unclassified group of pneumococci, when tested by the mouse-inoculation methods. It speaks well for the specificity of the direct method that not a single cross reaction occurred with any of these types, particularly so in the case of type V, which was formerly known as type IIa of Avery and which is closely related to the type II pneumococcus. It is important to note also that ten of the thirty-one type I sputums and six of the twenty-two type II sputums were not of the typical "rusty" or "prune juice" variety; typical reactions for type I and type II pneumococci were obtained in a few almost purely salivary specimens. The sputums of six patients who came to the hospital within from twenty-four to thirty hours after the onset of type I pneumococcus pneumonia presented in each instance sufficient pneumococci to permit an immediate determination of type; it is perhaps interesting to note that serum therapy was spectacularly effective in each of these patients.

SPUTUM OF PATIENTS SUCCESSFULLY TREATED WITH SERUM

Shortly before, at or shortly after the time of crisis in many of the patients successfully treated with serum (only cases of type I and type II pneumococcus pneumonia, in all of which serum was given, were observed), either the sputum on direct examination by this method was found to contain no pneumococci or else lancet-shaped diplococci were seen which did not give the "quellung" reaction. In tests on pneumococcus broth cultures it was observed that the organisms, shortly before undergoing autolysis, also failed to give the "quellung" reaction. Whether the lancet-shaped diplococci in the sputums already referred to were in that state or whether they represented different types of organisms cannot be stated. It is necessary to point out, however, that persons desiring to familiarize themselves with this method had best not use such specimens of sputum.

THE NATURE AND BIOLOGIC SIGNIFICANCE OF THE "QUELLUNG" PHENOMENON

In the early work on the "quellung" or swelling of the peripheral portion (capsule?) of pneumococci, Neufeld observed that the phenomenon required neither complement nor living organisms and that it did not lead to bacteriolysis. It has been generally assumed, therefore, that the "quellung" represented an antigen-antibody reaction on the periphery of the organism of the same nature as that which precedes agglutination. However, in this study certain important differences were found to exist. Thus, a serum which could agglutinate in a dilution of at least 1:200 produced the "quellung" phenomenon irregularly in a dilution of 1:5 and not at all in a dilution of 1:10, even when normal or heterologous immune serum was used as a diluent; furthermore, an undiluted serum produced agglutination on a species-specific basis without any associated "quellung" of the pneumococci. On the other hand, an undiluted serum failed to agglutinate because of a "zone phenomenon" but gave the "quellung" reaction nevertheless. Pneumococci agglutinated by a dilute serum exhibited the "quellung" phenomenon on the addition of the undiluted homologous rabbit serum but not on the addition of the heterologous serum. Larger "quellung" zones were observed with pneumococci in sputum than with those in the peritoneal exudate of a mouse; the latter, in turn, showed larger zones than the organisms in a broth culture. The "quellung" of pneumococci in broth cultures was greatest early in their growth, diminished as the period of incubation increased, and shortly before they underwent autolysis (usually on the third or fourth day of incubation) showed no "quellung" at all. When autolysis was prevented by heating the culture or exudate at 60 C. for forty-five minutes, the organisms retained their "quellung" capacity for a long time. A consideration of these various factors suggests that the "quellung" phenomenon involves something more than a mere combination of antibody with the organism. In a recent publication, Etinger-Tulczynska[6] maintains that the "quellung" phenomenon represents a visualization of the natural capsule as a result of the precipitate that forms on it following the union of the capsular substance with the specific antibody; she was able to simulate this phenomenon, nonspecifically, by the addition of various precipitating salts to pneumococci. Whereas this explanation appears plausible, it does not account for the fact that dilutions of serum which are capable of precipitating the so-called capsular substance are incapable of producing the "quellung" phenomenon.

SUMMARY

The type of invading pneumococcus in lobar pneumonia can be determined directly from the sputum within a few minutes by a method that makes use of Neufeld's "quellung" phenomenon.

Twenty-Sixth Street and First Avenue.

6. Etinger-Tulczynska, R.: Bakterienkapseln und "Quellungs reaktion," Ztschr. f. Hyg. u. Infektionskr. **114**: 769, 1933.

THE TREATMENT OF POLIOMYELITIS

PREVENTION OF DEFORMITY AND PROTECTION OF MUSCLES

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Jacob Heine, in 1840, in outlining the treatment of the deformities caused by poliomyelitis, recommended braces and the training of muscles. In his second edition, in 1860, he touched on the prevention of deformity. This, the paramount importance of rest, the protection of muscles from stretching and from the disastrous effects of fatigue, was fully discussed as to both principle and detail by Charles Fayette Taylor, in 1867. Hugh Owen Thomas, Sir Robert Jones, C. L. Lowman, Jean Macnamara and others have stressed these points; but deformities still occur and muscles continue to be damaged because this exact knowledge is not generally applied. Lovett, who was a great exponent of exercise, came to the conclusion that rest was the most important factor in treatment. One might say that the muscle paralyzed by poliomyelitis should be treated with the same care as a fracture as long as there is hope of improvement, together with the suggestions to be given.

It must be remembered that, while the primary lesion is in the nerve cells, secondary changes occur in the muscle fibers, and if these are stretched the fibers will be badly damaged, so much so that the muscle which would function eventually may be permanently paralyzed. This was well known in the 1860's but has largely been lost sight of. To give nature a chance to repair the damage and to prevent further injury, the muscles must be kept at rest in a position that will insure the greatest amount of recovery, which is when the attachments are brought as close together as possible, points brought out by Taylor in 1867. These two things are the basis of all rational therapy. Everything else may be looked on as secondary.

It must be borne in mind that the tendency in poliomyelitis is toward recovery and that, while there will be some residual paralysis in a proportion of cases, many muscles are needlessly sacrificed through neglect or improper treatment.

The principles of the management of the disease as I, a victim of it, see them, apart from any specific treatment with serum, may be stated as follows:

1. Deformity may be prevented. A start should be made as soon as possible. The patient is placed on a firm mattress with boards set transversely under it if necessary. Pillows should not be used under the legs. The patient should be kept recumbent in a suitable splint which will help relieve the acute pain so often present at the onset. The patient will welcome the relief and so become accustomed to the restraint. If not started at the onset, it should be done as soon as possible.

The nature of the splint, of course, will depend on the location and extent of the paralysis, but the main point to be remembered is that man is an erect animal and that the two muscle groups especially developed to enable him to stand erect, so differentiating him from the ordinary quadruped animals, are the glutei and the quadriceps. These muscles should therefore always receive especial attention, and they will be conserved best by keeping the patient, while recumbent, in the position he would be in if standing. As Taylor puts it,

> If the patient has been carefully attended, so that no damage is done by faulty positions while in a state of muscular atony, there will be no difference in the rate of recovery, nor will there be shortening or lengthening of the different muscles, and the patient can begin to stand and walk at a much earlier stage, and with much less strength, than when a small amount of shortening has been allowed to take place. The reason for this is that the least contraction of the flexor muscles will at once throw the patient out of his natural position, and the weight of the body must be *held entirely* by the force of the muscles instead of resting on the bony framework, with only sufficient muscular aid to keep it erect.

A modified double Thomas frame splint made to extend from head to foot can be used to maintain the body in line so that eventually, when the splint is discarded, the patient will be able to stand erect, assuming that he will have recovered sufficient power to do so. Macnamara [1] gives the details of such a frame splint, which includes thoracic and pelvic bands, a corset to support the abdominal muscles, and adjustable arm and foot pieces. In place of this, other devices of plaster or metal may be used as well as sand-bags for adults. All splints must be used with thought.

Great care should be exercised in preventing slight deformities from the irregular return of muscle power. The line between the anterior superior iliac spines should be at right angles to the line passing straight down through the center of the body. The weaker muscles should be relaxed by position to prevent stretching by stronger opposing ones; for example, the quadriceps by keeping the leg extended but not so as to cause hyperextension. It should be remembered that the causes for subsequent deformity develop early, and prevention should start at once. The trunk muscle abdominals and the hip extensors are usually neglected with appalling results. The glutei and the quadriceps should always be kept in mind.

2. Relaxation and rest are the most important factors in treatment. Fatigue, both general and local, must be guarded against. The patient's sensations are not a good guide. An amount of fatigue, dangerous alike to nerve centers and muscles, may not be noted until it is too late. Fatigue from exercise must be carefully watched for, as noted under muscle training.

3. The muscles must be protected. Overstretching a normal muscle will paralyze it temporarily and overstretching a paralyzed muscle may damage it permanently. The stretching may be due to the force of gravity, as in the examples of the deltoid, the quadriceps and the tibialis anticus. This stretching may be due also to the pull of stronger antagonistic muscles. Both of these forms may be prevented by the use of properly adjusted splints changed from time to time to suit existing conditions. Much injury may be done by allowing the patient's arms or legs to dangle in handling him. A muscle will recover its power more quickly and completely in complete relaxation than in any other position. A relatively weak muscle may in this manner become stronger than the one which originally opposed it, and a change in splints must be made accordingly.

4. Contractures must be prevented. Contractures are due to shortening in unopposed and relaxed muscles, tendons and fascia. Proper splinting and the daily bath, at which time proper passive exercises may be undertaken, will prevent them.

Muscles should never be allowed to stretch while the child is being moved or while treatment is being given. This should be limited at first to daily warm baths;

1. Macnamara, Jean: Brit. M. J. 2: 1099 (Dec. 17) 1932.

when tenderness and pain pass, a program of very gentle massage, and a very little passive motion, to be replaced by voluntary exercise under supervision as outlined, may be undertaken.

Muscle training can be carried out on a table on a Mackenzie board; that is, the legs or arms may be exercised on a suitably sized smooth board well powdered, placed on pillows; or under water. The exercises are done first on a flat surface with gravity eliminated; later the board may be inclined; still later, gravity may be allowed to a greater extent. In the water the physical therapist, if necessary, supports the limb that is being exercised.

The exercise is started with very little motion, one or two movements, and gradually increased. If the muscle fails to make the movement easily, a sign of fatigue, the exercise should be stopped and the rest period awaited.

5. At first the more important muscles should be favored until their recovery is assured. These are the deltoids, the extensors of the wrist, the opponens of the thumb, the glutei, the quadriceps, the calf muscles, the invertors of the foot and the abdominal muscles.

6. Muscles may be reeducated and strengthened by suitable exercise. In the early stages a daily warm saline bath will be all that is needed. Later, when the pain and tenderness have passed off, a small amount of daily exercise may be given. In America, this treatment has been overdone and the measures to insure the fundamental protection have been overlooked.

If a movement cannot be made voluntarily, it should be made passively and the patient encouraged to will it. The value of volition in muscle training was stressed by John Hunter in the eighteenth century and by Roth in 1869, among others. A weak muscle may be assisted. A muscle should never be permitted to become fatigued. During the exercise it should be seen that the other muscles are protected.

The advantage of under-water treatment is that gravity, i. e., the weight of the limb, is largely eliminated; the patient can make volitional movements impossible in the air, may complete motions, learns coordination, and gains in confidence and morale, a factor that only one who has been through it can appreciate. The arc of motion should in all exercises be completed either with or without assistance. The use of "trick" movements or "cheating," in which the patient produces the movement by using another group of muscles than the one ordinarily used, should not be permitted.

7. The exercise given must always be well within the capacity of the muscles. The exercise must not be by rule of thumb but should be regulated each day, for each patient and for each muscle group.

8. The treatment should be individual and modified from time to time to suit conditions as they arise.

9. The muscles should be protected and trained as long as there is any improvement.

10. When muscles of the trunk and legs are involved, weight bearing should not be allowed while improvement is going on if the aim is to achieve all the recovery possible, but only after it has come to a standstill.

The time to let the patient up is always a question. Macnamara continues a regimen of accurate splinting in the recumbent position as long as there are signs of improvement. After a year, if there is no evidence of further improvement, suitable braces may be supplied and the training directed to securing the best possible result as to function. Prolonged treatment often avoids the use of braces later.

11. Warmth is useful. The muscle should be warmed before exercise. Dry heat may be applied in tents or boxes fitted with carbon bulbs, improved appliances or other means. Fresh air, sunlight and ultraviolet rays in properly graduated doses are of value in improving the general condition. Massage, if used, should be gentle and, if there is any tenderness, avoided.

Warm baths are most useful and are gratifying to the patient. A warm bath, preferably of salt water, should be given daily. Small children may be bathed in a tub, the muscles being supported during the bath and care being taken to avoid the dangling of limbs in handling the child. Macnamara [2] advises bathing adults in bed by placing a rubber sheet under them and pinning it with clothes-pins to boards hinged to the sides and foot of the bed and over pillows to the back. The water is drained out by pulling a part of the sheet through a hole in one of the boards. When not in use, the boards are dropped to the side of the bed. Any good mechanic can attach gadgets to the bed to hold strong wires to be used for this purpose.

12. The morale of the patient should be kept up. The child should not be humored or spoiled; self pity will down the strongest. Those around poliomyelitis patients should remember the saying of Dr. John Brown about pity ceasing as an emotion and becoming a motive. Suitable amusements for young and old, education by mail or by teachers, games, radio, music and visitors help to pass the hours. An unoccupied person cannot be expected to be happy. Too often patients are allowed to stew in their own mental juices to their great detriment. Education, diversion or visiting should not be overdone. Proper mental rest is as essential as physical rest but, as the Scotch saying goes, "It is possible to get too much pork for a shilling."

SUMMARY

In managing patients paralyzed by poliomyelitis, one should bear in mind that deformity is preventable; rest is essential as long as there is hope of improvement in muscle power; the muscles must be protected from damage by stretching and fatigue; a muscle placed at rest in a position of relaxation, i. e., with the attachments brought as close together as possible, will recover sooner and more completely; the patient should be kept recumbent (in proper line, i. e., in the same alinement as if standing erect); weight-bearing is not to be allowed while recovery is occurring if the best results are to be obtained, and much of the crippling resulting at present may be avoided.

11 East Chase Street.

2. Macnamara, Jean: Canad. Pub. Health. J. **23**: 517 (Nov.) 1932.

The Gold Content of Sea Water.—When the World War was over and the victors imposed upon Germany the task of finding enormous sums for "reparations," Fritz Haber proposed to himself the most interesting scheme of extracting gold from the inexhaustible reservoir of the oceans. Previous determinations by other investigators had placed the gold content of sea water at five to ten milligrams of gold per metric ton (one thousand kilograms) of water. The gold ores of South Africa contain about one thousand times more gold per ton than does sea water, but the greater ease of working water, as compared with rigid rock, made the task seem very promising. . . . The plan itself did not succeed and could not succeed. Instead of the assumed gold content of five to ten milligrams per ton, Haber's numerous experiments showed only about one thousandth as much. But they accomplish a great advance in the analytical methods for separating out minute amounts of material.—Hahn, Otto: From the Ponderable to the Imponderable, *Science* **77**:398 (April 28) 1933.

APOMORPHINE AS AN ANTIDOTE TO STRYCHNINE POISONING

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AND
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In the course of another study the observation was made that a combination of morphine and apomorphine in very small doses, which by themselves produced no appreciable depression, gave rise to an unusual degree of motor fatigue. Experiments were then planned to determine whether this action might prove useful in antagonizing the actions of strychnine, in view of the recent report by Haggard and Greenberg [1] that in dogs and rats convulsions are diminished and recovery occurs after the administration of more than the single fatal dose of strychnine when the animals are treated with apomorphine, and in view of Dr. Martin's report, quoted by these authors, indicating that similar results can be obtained in man.

In preliminary experiments the combination of morphine and apomorphine in very small doses proved entirely ineffective against strychnine poisoning, and the plan was not pursued further, but in one experiment a very large dose of apomorphine also proved ineffective. This suggested the need of confirming the report of Haggard and Greenberg, especially because the conclusion regarding the effectiveness of apomorphine appears to have been based on the recovery of only two dogs. Unless it can be shown that apomorphine is fairly consistently effective against strychnine poisoning it might prove disastrous to place reliance on a dose of apomorphine which is usually much more readily available in practice than the effective methods for the treatment of strychnine poisoning which have come into vogue during the past few years.

Experiments were designed to ascertain (1) whether apomorphine would diminish the reflex excitability caused by nonfatal doses of strychnine, and (2) whether apomorphine would prevent paralysis of respiration after doses of strychnine that are fatal for normal animals. In some cases in which it was possible, the same animal was employed for more than one experiment.

Sixteen experiments were carried out on eleven dogs. Strychnine sulphate and apomorphine hydrochloride were used in 1 per cent solutions. Both drugs were injected intraperitoneally. The doses in all cases were calculated in terms of milligrams of the drug per kilogram of body weight. The results in some detail have been summarized in table 1.

TABLE 1.—*Results of Study of Antagonism Between Apomorphine and Strychnine*

Date	Dog	Apomorphine Hydrochloride, Mg. per Kg. Intraperitoneally	Effect of Apomorphine	Strychnine Sulphate, Mg. per Kg. Intraperitoneally	Result	Comment
12/26/32	3	10	No vomiting	0.53†	Death in 40 min.	Strychnine, 0.35 mg., at 11:51; marked hyperexcitability at 12; 0.18 mg. of strychnine at 12:06; convulsion at 12:09; 10 mg. of apomorphine at 12:10; convulsions continued until respiration ceased at 12:46
12/29/32	6b	10	No vomiting	0.7†	Death in 17 min.	Strychnine, 0.7 mg. at 10:11; caused convulsion at 10:17; 10 mg. of apomorphine at 10:18; convulsions continued until respiration ceased at 10:28
12/26/32	2	10	Vomiting	0.7	Death in 10 min.	Apomorphine at 10:44; strychnine at 10:46; convulsions appeared at 10:50; respiration ceased at 10:56
12/24/32	1	10*	Vomiting; excitement	0.7	Death in 13 min.	Apomorphine, 5 mg., at 12:44; strychnine at 1:31; convulsions appeared at 1:37; a second dose of 5 mg. of apomorphine at 1:41 (no vomiting); respiration ceased at 1:44
12/29/32	8b	10*	Vomiting	0.7	Recovery in 139 min.	Apomorphine, 5 mg., at 11:44; strychnine at 11:56; convulsions appeared at 12:09; second dose of 5 mg. of apomorphine at 12:12 (no vomiting); convulsions still present at 12:39; complete recovery at 2:15
1/ 4/33	10b	10*	Vomiting	0.7	Death in 46 min.	Apomorphine, 5 mg., at 2:01; strychnine at 2:17; convulsions appeared at 2:33; second dose of 5 mg. of apomorphine at 2:47; convulsions continued until respiration ceased at 3:03
12/29/32	10a	5	Vomiting	0.7	Recovery in 123+ min.	Apomorphine at 2:16; strychnine at 2:28; convulsions appeared at 3:02; slight hyperexcitability still present at 4:31
12/29/32	11	5	Vomiting; marked depression	0.7	Death in 26 min.	Apomorphine at 3:50; strychnine at 4:04; convulsions appeared at 4:15; respiration ceased at 4:30
12/27/32	5	0	.....	0.35	Recovery in 67 min.	Strychnine at 3:02; marked hyperexcitability at 3:12 (no convulsion at any time); complete recovery at 4:09
12/28/32	6a	0	.....	0.35	Recovery in 113 min.	Strychnine at 10:12; convulsions at 10:28; complete recovery at 12:05
12/28/32	7a	0	.....	0.35	Recovery in 102 min.	Strychnine at 11:00; marked hyperexcitability at 11:33 (no convulsions at any time); complete recovery at 12:42
12/28/32	8a	0	.....	0.35	Recovery in 72 min.	Strychnine at 1:38; slight hyperexcitability at 2:10 (neither convulsions nor marked hyperexcitability at any time); complete recovery at 2:50
12/28/32	9	0	.....	0.35	Recovery in 169+ min.	Strychnine at 2:08; marked hyperexcitability at 2:15 (no convulsions at any time); almost complete recovery at 4:57
12/27/32	4	10	Vomiting	0.35†	Recovery in 99+ min.	Strychnine, 0.35 mg., at 11:20; caused a convulsion at 11:35; 10 mg. of apomorphine at 11:36; slight reflex hyperexcitability still present at 12:59
12/29/32	7b	0	.....	0.7	Death in 28 min.	Strychnine at 10:19; convulsions appeared at 10:38; respiration ceased at 10:57
1/ 3/33	8c	0	.....	0.7	Death in 37 min.	Strychnine at 2:08; convulsions appeared at 2:20; respiration ceased at 2:45

* Apomorphine was given in two doses in these cases. In all others apomorphine was given in one dose.
† In these cases the strychnine was given before the apomorphine; in all others the apomorphine was given first.

Haggard and Greenberg accepted 0.7 mg. of strychnine (sulphate?) per kilogram as the surely fatal dose by intraperitoneal injection in the dog. They injected 1 grain (64.8 mg.) of apomorphine, which we assumed to be the total dose for their dogs, but since they did not state the weight of their animals, we assumed that dose to represent about 5 to 10 mg. of the drug per kilogram of body weight. They gave the strychnine first and the apomorphine when hyperexcitability or convulsions appeared. In the two dogs in which we proceeded in this way, convulsions continued uninfluenced by the apomorphine until death in forty and

From the Department of Pharmacology, Cornell University Medical College.

1. Haggard, H. W., and Greenberg, L. A.: Antidotes for Strychnine Poisoning, J. A. M. A. **98**: 1133 (April 2) 1932.

seventeen minutes respectively after the strychnine (dogs 3 and 6b). In the first of these the fatal dose of strychnine was only 0.53 mg. per kilogram.

In the remaining experiments the apomorphine was given in one dose prior to the strychnine or in two doses, 5 mg. at varying intervals before the strychnine and 5 mg. after symptoms of strychnine poisoning appeared. The apomorphine caused vomiting in all instances except the two in which strychnine convulsions were produced before the apomorphine was given. It also produced periods of marked motor unrest during which the animal paced about the room continuously, alternating with periods of motor weakness during which the animal refused to stand and lay with the legs sprawled out. In some cases this modified somewhat the reaction during strychnine poisoning; namely, the animal made more frequent attempts to rise, precipitating convulsions, and exaggerated motor depression occurred between the convulsions.

Table 2 shows the effect of 0 35 mg. of strychnine sulphate in each of six dogs. The maximum effect of the same dose varied considerably in different animals, from slight hyperexcitability to convulsions, and complete recovery required from sixty-seven minutes to more than a hundred and sixty-nine minutes. In the one dog of this series (dog 4) that was treated with apomorphine the hyperexcitability continued uninfluenced, and recovery took place no sooner than in the untreated animals. The experiments of the next series confirm the observation of the absence of any antispasmodic effect of apomorphine.

Table 2 also shows the effects of a uniform dose of 0.7 mg. of strychnine sulphate in dogs receiving apomorphine. This dose of strychnine caused typical convulsions in all these animals, and death in six of eight experiments in which apomorphine as well was administered. In one case (dog 8b) the animal

TABLE 2.—*Results with Two Different Dosages of Strychnine Sulphate*

Animals Receiving 0.35 Mg. of Strychnine Sulphate				Animals Receiving 0.7 Mg. of Strychnine Sulphate		
Dog	Apomorphine Hydrochloride, Mg. per Kg.	Effect of Strychnine	Recovery, Minutes	Dog	Apomorphine Hydrochloride, Mg. per Kg.	Result
8a	0	Slight hyperexcitability	72	1	10	Death
				2	10	Death
5	0	Marked hyperexcitability	67	3*	10	Death
				6b	10	Death
7a	0	Marked hyperexcitability	102	7b	0	Death
				8b	10	Recovery
9	0	Marked hyperexcitability	169+	8c	0	Death
				10a	5	Recovery
6a	0	Convulsion	113	10b	10	Death
4	10	Convulsion	99+	11	5	Death

* Received only 0.53 mg. of strychnine sulphate.

recovered from 0.7 mg. of strychnine sulphate when given 10 mg. of apomorphine; five days later a similar dose of strychnine without the apomorphine was fatal (dog 8c). It indicated the possibility of a protective action of the apomorphine. This interpretation was vitiated, however, by the observation in another animal in which recovery from 0.7 mg. of strychnine sulphate occurred when 5 mg. of apomorphine was given, but a similar dose of strychnine given six days later was fatal, although even a large dose of apomorphine was administered, namely, 5 mg. before the strychnine and 5 mg. after strychnine convulsions appeared (dogs 10a and 10b). It is evident, therefore, that 0.7 mg. of strychnine sulphate, while usually fatal, is not uniformly so, and that the animal which will at one time recover from such a dose may at another time succumb to it.

CONCLUSIONS

The results of these experiments lend no support to the statement by Haggard and Greenberg that apomorphine controls strychnine convulsions in dogs and permits recovery from approximately twice the lethal dose of strychnine. Our results in a larger series of experiments show, on the contrary, that there is no appreciable antagonism between apomorphine and strychnine in dogs, that the reflex hyperexcitability from nonfatal doses of strychnine is not diminished and that death from doses fatal to untreated animals is not prevented by the administration of apomorphine. Possible sources of error that may indicate an antagonism between the two drugs are pointed out, namely, considerable variation in the degree of hyperexcitability after similar doses of strychnine in different dogs, as well as differences in susceptibility of the same dog at different times.

PERNICIOUS ANEMIA AND TUBERCULOSIS: IS THERE AN ANTAGONISM?

A REVIEW OF THE OCCURRENCE OF TUBERCULOSIS IN NINETY-THREE CASES OF PERNICIOUS ANEMIA AS FOUND IN 16,600 POSTMORTEM EXAMINATIONS, WITH A REPORT OF TWO CLINICAL CASES

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Observers are almost unanimous that patients suffering from pernicious anemia remain practically free from active tuberculosis. In fact, so infrequent is the association of these two diseases that most of the textbooks on pathology and hematology as well as on clinical medicine do not even discuss it, and, in talking over this matter with clinicians as well as with pathologists of wide experience, I have been impressed with the fact that they have practically never encountered instances of such association. What is even more striking is the absence of material on this subject in the English literature and the scarcity of it also in the foreign literature. It is for this reason that I consider it a rare opportunity to have encountered two such cases, which I shall attempt to present, together with a review of what little is available in the literature.

REVIEW OF LITERATURE

Mathias [1] cites the pathologic statistics from Breslau in which not a single case of active tuberculosis was found in all the pernicious anemia cases. In his own carefully studied series of thirty-six cases of pernicious anemia there was not a single instance of active tuberculosis present. He considers this freedom from tuberculosis in pernicious anemia so striking that he asks for the experience of other observers in regard to this matter. He points out that this apparent antagonism is the more notable since, as Rokitansky has shown, cases of chronic malnutrition — diabetes, malignant growths and cachetic states—usually predispose to the activation of dormant tuberculosis. Mathias suggests

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Read before the Minnesota Society of Internal Medicine, Minneapolis, May 15, 1933.

1. Mathias, Ernst: Ueber das freibleiben perniziöser Anämien von der Tuberkulose der Kachektischen, Deutsche med. Wchnschr. **52**: 2190 (Dec. 24) 1926.

that perhaps the oxygen deficiency resulting from the anemia precludes tuberculous activity.

Neuburger [2] hints at the possibility that the excessive erythrocytolysis might act as an inhibitory factor against tuberculosis but at the same time tries to point out the fallacy of such an assumption by citing the relative frequency of tuberculosis in congenital hemolytic jaundice, in which erythrocytolysis is even more pronounced. He reports a case of congenital hemolytic anemia in which the patient died of extensive tuberculosis. He believes that there is probably some constitutional factor which, while predisposing to the development of the anemia, at the same time produces a refractoriness to tuberculosis. This concept would place pernicious anemia as a distinct entity which already exists in the patient long before any clinical manifestations of the disease develop.

Berger [3] similarly states that the débris of excessive erythrocytolysis cannot explain the rarity of the combination. He cites an interesting case of pernicious anemia developing six years after subtotal gastrectomy for carcinoma. There were characteristic exacerbations and remissions during a period of three years with the usual blood picture, neurologic changes and achylia. Under liver therapy and hydrochloric acid the anemia improved, but during one of these remissions the patient developed generalized miliary tuberculosis and died.

Qvarnström [4] is not entirely in accord with the preceding authors and concludes from his careful studies that there is neither a predisposition nor an antagonism between pernicious anemia and tuberculosis. He believes that each disease seems to run a course entirely independent of the other. He cites two cases in which the two diseases coexisted. In a series of 10,500 autopsies at Helsingfors, performed between 1886 and 1929, there were found 124 cases of pernicious anemia, of which 33 were associated with the fish tapeworm. In these 124 cases, 5 showed active tuberculosis and 7 showed healed lesions. He seems to find no difference between idiopathic pernicious anemia and the anemia of fish tapeworm in their relation to tuberculosis and therefore did not attempt to separate them.

Strandell [5] made an intensive study of pernicious anemia in a series of 117 cases carefully followed during a period of many years. In this series he found four cases of active tuberculosis superimposed on pernicious anemia, but only one showed active pulmonary tuberculosis, the others being intestinal peritoneal and generalized miliary tuberculosis. He concludes that the association of the two diseases is very unusual.

From this brief review of the literature it is evident that the coexistence of the two diseases is exceedingly rare. Most of the authors sense an antagonism between the two diseases but have difficulty in explaining the basis for it. That the oxygen deficiency theory is untenable is proved by the fact that tuberculosis does not develop either in the period preceding the onset of severe anemia or during the long remissions, when the oxygen content in the blood is normal. Neither is there any good foundation for the assumption that the cellular débris resulting from excessive hemolysis prevents the growth and development of the tubercle bacillus, for, as previously mentioned, tuberculosis does occur in congenital hemolytic jaundice. Qvarnström [4] is the only one who believes that he found neither antagonism nor predisposition, but since his studies are from Finland, where infestation with the fish tapeworm is so very common, it is quite likely that the relative frequency of association of tuberculosis with anemia might be explained by the fact that many of these anemias may have been due to the fish tapeworm and were not true idiopathic anemias. He plainly states that he made no attempt to differentiate the two types. Schauman and Saltzman [6] have found that the frequency of tuberculosis in the tapeworm anemias is fairly common but very rare in idiopathic pernicious anemia. They give a lengthy discussion on the relationship between pernicious anemia and tuberculosis and cite authorities [7] who state that in all their experience they have never seen a combination of tuberculosis with the idiopathic variety.

REVIEW OF POSTMORTEM CASES

In order to determine the frequency of tuberculosis with pernicious anemia in a large series of cases, the postmortem records of more than 16,000 autopsies, performed from 1920 to 1932, inclusive, in the Department of Pathology at the University of Minnesota Medical School were examined. In this series, ninety-three cases of pernicious anemia were found. All of these were strikingly free from active tuberculosis. Ten of these cases showed chronic adhesive pleuritis, of which undoubtedly a high percentage was tuberculous, but the lesions were all healed. There were three cases of arrested or healed nonclinical pulmonary tuberculosis and one case of healed miliary pulmonary tuberculosis. In the entire series of ninety-three cases there were present only two cases of active tuberculosis, and both of these were acute generalized miliary tuberculosis, which was the direct cause of death in these patients. The absence of active chronic pulmonary tuberculosis is very striking. In a similar study on tuberculosis and cancer in a series of more than 11,000 autopsies, Carlson and Bell [8] found that, although there is apparently no antagonism between cancer and tuberculosis, active tuberculosis is much less frequent in persons with cancer than in the general postmortem series. They also found that cancer is relatively less frequent in active tuberculosis. From a knowledge of the incidence of these two diseases in the different age periods, one would expect a lowering of the incidence in the combination, since the peak of tuberculosis frequency is in the middle of the third decade, a period in which the carcinoma incidence is very low, since it is just beginning. From then on the carcinoma incidence increases until it reaches its peak about the sixth decade. Although tuberculosis seems less common in cancer patients, nevertheless a combination of the two is encountered not infrequently. This is quite in contrast to the incidence of tuberculosis in pernicious anemia, where one would expect more frequent coexistence, since the greatest incidence of pernicious anemia occurs earlier than that of cancer and therefore during a period when tuberculosis is still relatively frequent. Yet our entire series of ninety-three cases of pernicious anemia did not present a single case of chronic pulmonary

2. Neuburger, Joseph: Die Beziehung der Tuberkulose zum hämolytischen Ikterus und zur perniziösen Anämie, Deutsche med. Wchnschr. **53**: 997 (June 10) 1927.
3. Berger, Ludwig: Anaemia perniciosa nach Magenresektion: Aufflackern einer alten Tuberkulose im Enstadium der Erkrankung, Med. Klin. **27**: 171 (Jan. 30) 1931.
4. Qvarnström, E.: Perniciös anemi och tuberkulos, Finska läk.-sällsk. handl. **71**: 849 (Oct.) 1929.
5. Strandell, Burger: Pernicious Anemia: A Study of 117 Cases, Acta med Scandinav. Supp. **40**: 1-124, 1931.
6. Schauman, O., and Saltzman, F.: Die perniziösen Anämie, in Enzyklopaedie der klinischen Medizin, special volume, Handbuch der Krankheiten des Blutes **2**: 140, 1925.
7. Gulland, G. L., and Goodall, A.: Pernicious Anemia: A Histological Study of Seventeen Cases, J. Path. & Bact. **10**: 125, 1904-1905.
8. Carlson, H. A., and Bell, E. T.: A Statistical Study of the Occurrence of Cancer and Tuberculosis in 11,195 Postmortem Examinations, J. Cancer Research **13**: 126 (July) 1929.

tuberculosis and only two cases of miliary tuberculosis. This result completely coincides with the reports in the literature in which occasional cases of acute miliary tuberculosis are reported but practically no cases of progressive pulmonary tuberculosis. It is obvious that cases of miliary tuberculosis present a type of acute infectious disease spread by the blood stream altogether different from chronic pulmonary tuberculosis. The factors of immunity and resistance are entirely different in the two diseases. It is therefore not unreasonable to conclude both from a review of the literature and from a study of a large series of postmortem cases that chronic progressive pulmonary tuberculosis is only on the rarest occasions associated with pernicious anemia.

REPORT OF CASES

CASE 1.—B. T., a man, aged 67, first seen, May 17, 1927, complained of marked weakness, loss of appetite, nausea and gastric distress and a loss of 25 pounds (11 Kg.). In September, 1924, his condition was definitely diagnosed as pernicious anemia. At that time he had a characteristic history, clinical and laboratory findings, including achylia gastrica, and a negative gastro-intestinal study. He had attacks of gastric distress and a marked glossitis; the heart and lungs were entirely normal. During three years' observation his blood picture varied, the hemoglobin between 59 and 74 per cent, the red count between 1,900,000 and 3,300,000, the leukocyte count from 2,300 to 3,300, and the hemoglobin index above 1, generally around 1.4. The patient left for California, Nov. 15, 1926, and while there a pleural effusion developed which was diagnosed tuberculosis in March, 1927. When seen after his return in May, 1927, he was markedly underweight; his temperature was around 100 F., and his pulse, 110; he looked pale and was emaciated. The tongue was apparently normal, and the chest showed poor expansion with dulness and numerous crepitant and subcrepitant râles over the right upper lobe; the liver was slightly enlarged; the spleen was not palpable, and vibration sense was decreased in both legs. Roentgenograms of the chest showed extensive infiltration of the right upper lobe, some infiltration of the middle lobe and a slight infiltration of the left apex. Several sputum examinations showed numerous tubercle bacilli present. The diagnosis was active bilateral tuberculosis, with a small amount of fluid at the left base. A repeated gastric analysis showed an achylia present. The blood picture now showed 44 per cent hemoglobin, 1,700,000 red blood cells, hemoglobin index 1.3, leukocyte count 8,200, with a differential showing a few myeloblasts and myelocytes. June 2, the hemoglobin was 68 per cent, red count 3,300,000 and leukocytes 9,700; July 20, the hemoglobin was 46 per cent and leukocytes 26,500, of which 79 per cent were polymorphonuclears, 6 per cent lymphocytes, 9 per cent mononuclears and transitionals, 1 per cent eosinophils and 5 per cent myelocytes. The granulocytes showed a definite shift to the left. The patient was given several blood transfusions with some improvement of the blood but no change in his general condition. He had a progressively downhill course with an irregular temperature reaching 103.5 F. He became bedridden and markedly emaciated and died from a rapidly spreading tuberculosis of both lungs, September 22.

This case is unique in showing the development of a rapidly spreading pulmonary tuberculosis in a man suffering from pernicious anemia of at least four years' duration. The tuberculosis ran a course of about six months and finally caused the death of the patient. The blood picture seemed to improve at a time when the infection was active and spreading. The virus of the tuberculosis altered the blood picture in that the leukopenia changed to a normal leukocyte count and finally to a moderate leukocytosis (26,500). The polymorphonuclears showed a definite shift to the left and, toward the end, many metamyelocytes and myelocytes appeared. This condition was probably the result of a toxic stimulation on an embryonic type of bone marrow. The hemoglobin index remained high throughout. This case as well as the succeeding one seemed to support the statement of Qvarnström that, when the two diseases do coexist, one does not seem to modify the course of the other.

CASE 2.—Mrs. G. L., aged 68, admitted to the hospital, Oct. 2, 1932, complained of weakness and tingling of the hands and feet and difficulty in walking. Four years previously a severe anemia developed, which proved refractory to treatment and which later continued with exacerbations and remissions. In 1931 her condition was diagnosed pernicious anemia; she was given desiccated hog stomach, with some improvement. Physical examination at the present admission showed a pale lemon yellow skin, appetite poor, hemoglobin 17 per cent, red count 1,300,000, leukocyte count 1,900. She was given a transfusion, following which the hemoglobin one week later was 34 per cent, red count 1,800,000, leukocyte count 3,800. The temperature ranged from 98 to 101 F. She then went home for a short period, at which time she developed pain in the right chest, a cough with expectoration, chilliness, tingling sensations occasionally of the hands and feet, and later a pleural effusion. She was readmitted with a hemoglobin of 58 per cent, red count 2,100,000, leukocytes 7,600 and hemoglobin index 1.4. The patient died suddenly, November 14. The autopsy showed a massive miliary tuberculosis of both lungs with abscesses at the base of the right lower lobe, chronic adhesive pleuritis, generalized miliary tuberculosis of the liver and spleen, tuberculosis of the peribronchial lymph nodes, and hemosiderosis of the liver. The diagnosis was pernicious anemia and miliary tuberculosis.

This case showed an extensive miliary tuberculosis which resulted in the death of the patient. The patient also had a history of pernicious anemia of about four years' duration. The blood picture showed a progressive improvement, while the tuberculosis was rapidly spreading and the case was on a downhill course. This case is very similar to the two cases reported by Qvarnström.

SUMMARY AND CONCLUSIONS

1. Chronic pulmonary tuberculosis in pernicious anemia is so rare that its incidence is practically negligible. The mechanism of this inhibition of tuberculosis is unknown, but it is probable that some constitutional factor which underlies the development of pernicious anemia proves unfavorable for the evolution of pulmonary tuberculosis.

2. Whenever the two diseases do coexist, each seems to pursue a course entirely uninfluenced by the course of the other.

3. In case 1, the infectious disease altered the leukocytic picture by producing a definite shift to the left and the appearance of numerous metamyelocytes and myelocytes.

4. Acute miliary tuberculosis is somewhat more common as a complication of pernicious anemia.

5. In a series of 93 cases of pernicious anemia found among 16,600 postmortem examinations, only 2 cases of active tuberculosis of clinical importance were found, and both of these were acute generalized miliary tuberculosis. Not a single case of clinical chronic pulmonary tuberculosis was encountered in the entire series.

6. Four cases of tuberculosis complicating pernicious anemia are here reported; two are from postmortem studies and two from personal observation. Of these, three were acute general miliary tuberculosis and only one was chronic pulmonary tuberculosis.

7. The freedom of pernicious anemia cases from tuberculosis cannot be explained by the fact that "a person usually has only one major disease."[8] There must be an antagonism between them.

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Clinical Notes, Suggestions and New Instruments

EPHEDRINE AND PICROTOXIN USED SUCCESSFULLY IN AMYTAL POISONING

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A girl, aged 3¾ years, at about 11:30 a. m., seemed excited and fretful, threw herself about and talked incessantly with a thick enunciation. She fell down again and again in attempting to walk. Her eyes wandered and were apparently unable to fix on any object. Soon she became drowsy and was unable to stand, owing apparently to weakness in the lower extremities.

At 11:50, an open box which had previously contained several (probably not more than four) 1½ grain (0.1 Gm.) tablets of amytal (isoamylethylbarbituric acid) was found in the room in which she had been playing. The child was promptly given two teaspoonfuls of syrup of ipecac, which produced vomiting at 12:20 p. m., the vomitus being saved and later giving a positive reaction for the barbital derivatives. I saw her at 1:20, at which time she showed flushing of the face and unconsciousness, vigorous shaking arousing her only partially. Gastric lavage was employed, followed by the administration through the tube of ⅚ grain (0.05 Gm.) of ephedrine sulphate and an unmeasured quantity of magnesium sulphate solution.[1] At 2 o'clock, ⅟₁₀₀ grain (0.00065 Gm.) of picrotoxin was administered hypodermically.

The passage of the stomach tube and the administration of the hypodermic evoked crying and a slight struggle, but she lapsed into unconsciousness again immediately and could not be aroused by calling or shaking. Even when struggling, the head hung limp, and the muscles of the neck and lower extremities appeared extremely weak. There was ptosis of the eyelids. At this time the systolic blood pressure was 90 mm. of mercury, and the pulse was 120. Respirations were not noticeably changed in rate or depth. At 2:30 she vomited, seemed much brighter, and was able to stand alone, leaning against the side of the bathtub. At 2:45 a soapsuds enema was given, resulting in a small stool. She was still drowsy but could easily be aroused. At 3:45 a second dose of ⅟₁₀₀ grain (0.00065 Gm.) of picrotoxin was administered hypodermically. She vomited twice more during the afternoon, but continued steadily to improve, and was able to come downstairs for dinner, though she fell asleep during the meal. On the following day she played about the house as usual and had two liquid stools. No untoward later results were noted.

The use of ephedrine in the treatment of poisoning with the barbital derivatives was suggested by the work of Schmidt[2] and of Chen and Schmidt[3] who found it to have an exceedingly powerful stimulating action on the respiratory center. It was found by Cameron and McCulloch[4] to be of decided value in the treatment of nembutal (sodium-ethyl methyl butyl barbiturate) poisoning in animals.

Picrotoxin is a neutral principle derived from the fruit of Anamirta paniculata and has the empirical formula $C_{30}H_{34}O_{13}$. It was formerly used orally in the treatment of various conditions, including the night sweats of phthisis, in doses of from ⅟₆₀ to ⅟₂₀ grain (0.003 to 0.001 Gm.) for adults. It stimulates the medulla, and in large doses produces convulsions. Its action resembles somewhat that of strychnine, though it probably acts on a different part of the central nervous system.[5] It has not been included in the United States Pharmacopeia, tenth decennial revision, or in other pharmacopeias except those of France and Mexico.[6] Its use in acute poisoning with the barbital derivatives has been studied in animals by Maloney, Fitch and Tatum[7] and by Maloney and Tatum,[8] who found that picrotoxin shortened the recovery period when sublethal doses of the barbital derivatives were given to animals and effected a cure when lethal doses within certain limits had been given.

As far as I am aware, this is the first report of the use of either ephedrine or picrotoxin in a human case of poisoning by any of the barbital derivatives. Since this type of poisoning is becoming increasingly more common, it is hoped that others using this form of treatment will report their results in order that the value of these drugs may be established or disproved.

SUMMARY

A girl, aged 3¾ years, took a toxic dose of amytal, the exact amount not being known. Emetics and gastric lavage were given. Ephedrine, ⅚ grain (0.05 Gm.), and magnesium sulphate were administered by stomach tube. Two doses of picrotoxin of ⅟₁₀₀ grain (0.00065 Gm.) each, were given hypodermically. Improvement progressed with surprising rapidity, resulting in complete recovery.

2116 Pine Street.

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3. Chen, K. K., and Schmidt, C. F.: Medicine **9**: 1 (Feb.) 1930. The Action and Clinical Use of Ephedrine, J. A. M. A. **87**: 836 (Sept. 11) 1926.
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THE USE OF AMIDOPYRINE IN A CASE OF DIABETES INSIPIDUS

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In July, 1932, Scherf[1] made a report on the use of amidopyrine in the treatment of diabetes insipidus. I had at that time a patient suffering from this disease whose only relief from the great frequency of urination was daily injection of a pituitary preparation. Numerous attempts to alleviate his symptoms by oral administration of large doses of desiccated pituitary gland, and by the intranasal use of sprays and tampons saturated with a potent preparation of double strength solution of pituitary or ampules of pitressin were all without avail. The use of a snuff made from desiccated whole pituitary gland was also ineffective, not the slightest relief being obtained from any of these procedures. The use of amidopyrine according to Scherf seemed to offer some hope.

The patient, H. B., is a man, 6 feet (183 cm.) in height and weighing 160 pounds (72 Kg.). Before the onset of the present illness he was under my care for a period of three years for various minor throat and respiratory infections. His previous history was devoid of any illness having a bearing on his present condition.

June 7, 1931, he consulted me for frequency of urination and polyuria. These symptoms started on May 15, 1931, after a mild intestinal upset for which he had taken a vigorous cathartic. Since that time he had been obliged to urinate every half hour and he passed large quantities of colorless urine each time. He also had to get up five or six times nightly to void. Formerly he perspired freely even in winter. This had been so troublesome that he had consulted a physician for relief. Since the onset of his illness, however, he had never noticed the slightest perspiration.

Physical examination revealed no abnormality. The urine had a specific gravity of from 1.001 to 1.003 on more than twenty examinations made at various times during the course of a few days. There was never any sugar or albumin present. The microscopic examination was negative. The intake and output of fluid was measured for one week. The average figures were an intake of 6,500 cc. and an output of 6,200 cc.

The blood pressure was 120 systolic, 80 diastolic. A roentgenogram of the skull showed a normal sella turcica. The Wassermann test was negative. The blood sugar was 88 mg. per hundred cubic centimeters and the urea nitrogen 13 mg.

Eyeground examination showed normal fundi. There was no contraction of the color fields. A reexamination of the fundi and color fields in August, 1932, more than a year later, revealed no change. An examination of the nasopharynx for the remains of Rathke's pouch was negative. This was done

1. Scherf, D.: Wien. Arch. f. inn. Med. **22**: 457 (July) 1932.

in order to rule out the possibility of pressure on the pituitary from cystic changes in a persistent pouch.

The diagnosis established, treatment was begun with the hypodermic use of double strength solution of pituitary. This produced immediate relief of symptoms. An injection of 1 cc. just before bedtime gave complete relief until noon the next day. The first specimen of urine passed in the morning showed a specific gravity of 1.018. His sleep was uninterrupted by the necessity to void.

Eventually ampules of pitressin were substituted, as the double strength solution of pituitary produced cramps a short time after the injection. The only ill effect noticed from these injections was an intense blanching of the face, which lasted for about two hours following the use of either solution of pituitary or ampules of pitressin.

On this regimen the patient was comfortable, and only occasionally when he had some important engagement was it necessary for him to repeat the dose at 6 p. m. His appetite was good but not voracious. His weight remained stationary for over a year. During this time his fluid intake was on the average 4,500 cc. and his output was very nearly the same.

In August, 1932, after the appearance of the article by Scherf, the use of amidopyrine was instituted. Fifteen grains (1 Gm.) was given immediately before retiring. For the first time since the onset of his illness he was able to go through the entire night without an injection without having to urinate five or six times. The first specimen in the morning showed a specific gravity of 1.009. This effect was repeated on the three successive nights. On the fifth day, however, he noticed that his thirst was increased and he had to void much more frequently. This is in accord with the experience of Scherf, who noticed that the effect of the drug wore off in from three to ten days in different individuals. The effect returned, however, if the drug was discontinued for twenty-four hours.

At present my patient uses 15 grains (1 Gm.) of amidopyrine every night for three nights and the fourth night uses one ampule of pitressin. He also takes 15 grains of amidopyrine at noon. This keeps him as comfortable as the daily dose of pitressin formerly did. On this schedule his average fluid intake is about 4,500 cc. and the output is about 4,000 cc.

The relief from constant hypodermic medication on the score both of convenience and of expense makes this plan of treatment appreciated by the patient. The embarrassment of a ghastly white face following injection of pitressin during the day is relieved. The only side-effect of the amidopyrine in this patient is a transient light headedness for a short time after taking the drug. The urine is colored an intense orange by the comparatively large dose of amidopyrine.

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PANCREATIC FAT NECROSIS FOLLOWING SUBTOTAL THYROIDECTOMY

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Pancreatic fat necrosis is a somewhat uncommon condition. Especially is it rare for it to occur following an operative procedure and to be a factor in the production of death in such a case. It would therefore seem that the following case is of sufficient interest to justify its report.

Opie[1] states that Wulff (1902) and Fabyan (1907) have each reported cases of pancreatic fat necrosis in which no lesion in the pancreas has been found. Opie suggests in these cases a localized lesion of the pancreas, so slight as to escape notice. Warthin (1904) reported a case of pancreatic fat necrosis about an aberrent gland. The occurrence of fat necrosis produced by intestinal fluid containing the fat-splitting enzyme of the pancreas cannot be excluded.

REPORT OF CASE

History.—Mrs. A. H., white, aged 56, entered the hospital complaining of goiter and shortness of breath. A goiter had been present for twenty years. This had gradually increased in size for several years, then remained about the same size for several years, and again increased in size during the six months immediately before admission to the hospital. In general, her health had been excellent until one year before admission, during which time she had noted ease of fatigue, marked nervousness, shortness of breath, palpitation, swelling of the ankles, frequent feeling of increased body heat, and excessive perspiration. All of these symptoms had gradually become more marked, especially during the two months before admission.

Examination revealed a large adenomatous goiter involving chiefly the left lobe of the thyroid, in which cystic change had taken place, moderate generalized arteriosclerosis, arteriosclerotic heart disease and myocardial insufficiency. The blood pressure was 170 systolic and 78 diastolic. It was felt that the heart disease was partly on a thyrogenic basis as well as arteriosclerotic. The urine and blood studies were negative. The Kahn test was negative. The basal metabolic rate was —7 per cent; the pulse rate, 56. A laryngeal examination was negative. Roentgen examination of the chest showed substernal prolongation of the thyroid with compression and deviation of the trachea, calcified atheromatous changes in the ascending, horizontal and descending parts of the aorta, and apparent calcification of the aortic and pulmonic ring. The lung fields were essentially normal.

In spite of the fact that the patient was a poor operative risk, owing to the cardiovascular disease, it was decided that subtotal thyroidectomy was indicated. After six days of preparation, consisting of rest in bed and digitalization, she had markedly improved and seemed in good condition. Subtotal thyroidectomy was performed and a large, cystic adenomatous goiter was removed. The immediate postoperative condition was satisfactory and continued so for about fifteen hours. She then complained of severe, generalized abdominal pain and vomited frequently. The abdomen was moderately distended and tympanitic throughout; there was marked tenderness throughout the upper part of the abdomen, and peristalsis was heard. The rectal temperature was 100 F. and the pulse 110. The symptoms became worse, abdominal pain more marked, vomiting more frequent, abdominal distention increased somewhat, the rectal temperature rose to 102 F., the pulse to 146 and very weak, tenderness in the upper part of the abdomen increased, and there was a profuse cold perspiration—the picture of severe shock. There was evidence of considerable fluid in the lungs and moderate edema of the lower extremities. Death occurred thirty-eight hours after operation.

Autopsy.—This revealed: extensive pancreatic fat necrosis in the pancreas, mesentery, omentum and retroperitoneal adipose tissue (thrombosis of branches of intrapancreatic veins with localized necrosis involving ducts); generalized arteriosclerosis with aortic calcification; arteriosclerotic atrophy of kidneys; slight chronic glomerulotubular nephritis; passive congestion and edema of the lungs; bilateral hydrothorax; edema of the lower extremities and the brain; terminal cardiac failure with dilatation; passive congestion of all organs; Graves constitution.

From the conditions found on microscopic examination of the pancreas the pathologist gained the opinion that the pancreatic lesions were on a vascular basis, rather than having had their origin in the pathologic changes of the duct.

COMMENT

The etiology of pancreatic fat necrosis is not definitely known. However, the preponderance of evidence seems to indicate that infection in the biliary tract is at least the most important etiologic factor. In this case there was no definite evidence of previous biliary infection. The definite cause of the pancreatic fat necrosis is not apparent. It is not clear whether the intrapancreatic venous thrombosis was the cause of, or the result of, the pancreatic changes. However, it seems more likely that the pathologic changes resulted from the thrombosis. But what produced the thrombosis? This cannot be answered. It is not clear that it was in any way connected with the operation or anything in the patient's condition before operation. Yet this relationship cannot be excluded, for the pancreatic lesions did develop immediately following operation and undoubtedly played a large part in the fatal termination.

University Hospital.

From the Department of Surgery, University of Michigan Medical School.

1. Opie, E. L.: Diseases of the Pancreas, Philadelphia, J. B. Lippincott Company, 1910.

Special Article

DIPHTHERIA MORTALITY IN LARGE CITIES OF THE UNITED STATES IN 1932

TENTH ANNUAL REPORT

This report concerns the ninety-three cities dealt with in the recent article on typhoid,[1] and the rates are calculated on the basis of the population figures used in that article. The number of diphtheria deaths in each city has been reported to us by the respective health department.[2]

So far as we have been able to ascertain, tables 1-8 contain rates for all the years since 1890 for which diphtheria deaths are available in the records of the health departments of the respective cities or in Chapin's "Municipal Sanitation." Certain of the five-year averages for the individual cities are based on

TABLE 1.—*Death Rates of Fourteen Cities in New England States from Diphtheria (Including Croup) per Hundred Thousand of Population*

	1932	1931	1930	1925-1929	1920-1924	1915-1919	1910-1914	1905-1909	1900-1904	1895-1899	1890-1894
New Haven.....	0.6	0.6	0.6	1.6	7.1	14.2	14.9	22.7	15.6	54.8	74.5
Bridgeport.....	0.7*	1.4	1.4	11.8	19.6	23.4	23.3	26.8	34.2	63.9	79.3
Hartford.....	1.2†	2.4	1.2	5.3	11.9	13.8	25.3	28.1	38.8	47.8	120.9
Waterbury.....	2.0	0.0	3.0	2.6	17.9	23.0	29.6	....	....	....	....
Cambridge.....	2.6	0.9	0.9	3.2	8.9	12.9	23.8	25.3	46.7	71.9	58.0
Fall River.....	2.6‡	7.1	3.5	12.0	25.5	23.6	24.0	34.4	50.1	43.8	46.9
Springfield.....	2.6	2.6	5.3	10.3	15.4	24.9	19.1	31.3	29.6	51.3	68.2
New Bedford...	2.7‡	8.0	8.0	10.9	16.5	17.0	20.9	22.6	25.1	53.6	20.0
Somerville.....	2.8	5.7	26.9	5.7	19.7	20.2	21.4	21.5	40.5	57.8	37.4
Lynn.....	2.9†	3.9	10.7	13.5	17.0	17.8	17.2	21.7	38.0	44.0	49.0
Boston.....	4.2†	4.7	2.9	8.3	20.2	26.3	20.0	26.2	53.7	83.9	112.2
Providence.....	5.8†	9.8	7.9	9.5	15.8	29.3	26.8	30.7	41.2	53.5	55.3
Worcester.....	6.0	4.0	1.5	8.6	15.5	14.1	21.3	32.2	16.5	50.3	47.8
Lowell.....	11.0‡	5.0	4.0	10.6	16.7	23.5	20.6	31.0	59.3	44.3	36.4

* All of the diphtheria deaths reported were stated to be in nonresidents.
† One third or more of the reported diphtheria deaths were stated to be in nonresidents.
‡ Rate computed from population as of April 1, 1930, as no estimate for July 1, 1932, was made by the Census Bureau.

figures for less than five of the years indicated. The irregularities have heretofore been marked by footnotes giving the missing years for each city. To clarify the tables, the specific footnotes are replaced in the present report (and the practice will probably be continued in the future) by the simple note "Incomplete data." The years that are included in the five-year averages, but for which diphtheria mortality data are lacking, are as follows: Akron, 1905, 1906, 1907, 1908; Canton, 1915; Des Moines, 1905, 1906, 1907, 1908; Erie, 1895; Fort Worth, 1918, 1919, 1920, 1921, 1922, 1923; Houston, 1902, 1903, 1904; Indianapolis, 1890; Jacksonville, 1925; Kansas City, Kan., 1910, 1911; Kansas City, Mo., 1910, 1911; Long Beach, 1920, 1921; Louisville, 1890; Miami, 1925; Peoria, 1907, 1908 and the first four months of 1909; Salt Lake City, 1890, 1891; Seattle, 1900; Tacoma, 1915; Tampa, 1915, 1916; Tulsa, 1920, 1921, 1922; Utica, 1925; Youngstown, 1890, 1891, 1892.

The New England group (table 1) again makes a new low record (3.65), some individual cities registering a low rate for the third consecutive year. The Connecticut municipalities, led by New Haven, have had in recent years a notably smaller diphtheria mortality than the Massachusetts cities. Bridgeport, after several years of an intensive control campaign, makes a particularly fine showing, the single diphtheria death reported being that of a nonresident. The diphtheria mortality in Boston is less than for the year before, though not quite equaling its banner year of 1930. Lowell experienced a considerable increase in diphtheria in 1932. In Worcester the mortality from the disease seems to be slowly creeping up.

TABLE 2.—*Death Rates of Eighteen Cities in Middle Atlantic States from Diphtheria (Including Croup) per Hundred Thousand of Population*

	1932	1931	1930	1925-1929	1920-1924	1915-1919	1910-1914	1905-1909	1900-1904	1895-1899	1890-1894
Albany.....	0.0	4.6	3.1	7.5	12.8	10.4	20.0	31.6	26.9	....	....
Utica.....	0.0	1.9	2.0	13.4#	....	....	....	....	....	....	....
Yonkers.....	0.0	0.7	1.5	10.4	17.0	17.7	25.3	....	....	....	....
Newark.....	0.4	3.6	10.8	14.5	9.7	14.6	23.3	30.1	46.7	79.1	110.4
Syracuse.....	0.5*	0.5	0.9	2.0	22.9	12.9	16.6	17.4	17.7	31.1	55.4
Scranton.....	0.7¶	1.4	2.1	11.7	12.3	22.1	23.4	....	....	77.8‖	48.6‖
Philadelphia....	0.8	1.5	2.5	11.8	16.7	22.7	24.6	34.1	50.0	100.6	119.4
Rochester.....	0.9†	0.6	1.5	7.5	16.9	12.7	22.1	32.4	32.3	45.9	96.6
Trenton.....	1.6*	4.8	5.7	4.4	7.3	8.8	12.3	15.8	23.6	92.7‖	89.7‖
Reading.....	2.7	0.9	3.6	7.3	21.1	16.9	35.7	29.2	70.1	72.0	94.1
New York.....	2.9	2.6	2.9	10.7	14.0	21.8	28.0	40.0	58.0	85.8	134.4
Buffalo.....	3.4	6.2	8.7	9.1	24.0	27.3	22.0	18.4	24.8	53.5	60.9
Elizabeth.....	3.4†	4.3	14.8	13.2	19.2	19.3	14.8	51.7	42.4	60.5	79.3
Jersey City.....	3.7	4.1	16.1	11.5	18.4	21.0	23.2	32.6	57.9	85.4	108.6
Pittsburgh.....	4.2	4.1	8.5	11.5	20.1	22.3	29.3	20.4	36.9	32.9	86.4
Paterson.....	4.3†	5.8	8.7	9.1	18.5	13.5	16.1	25.5	52.9	111.8	145.4
Erie.....	6.7	2.5	3.4	5.8	16.8	15.1	17.7	27.1	42.3	23.1#	....
Camden.....	8.4	9.2	11.8	21.9	20.3	23.2	38.8	48.9	52.6	93.8	194.0

* All of the diphtheria deaths reported were stated to be in nonresidents.
† One third or more of the reported diphtheria deaths were stated to be in nonresidents.
‖ Diphtheria deaths from Chapin's Municipal Sanitation.
Incomplete data.
¶ Diphtheria deaths for Scranton furnished by Pennsylvania Department of Health, Harrisburg.

The cities in the Middle Atlantic states (table 2) better their excellent record of 1931 and easily maintain their ranking as the group of lowest diphtheria mortality. Three of the five American cities[3] that did not register a single death from diphtheria in 1932 are in this geographic division. It is suggestive that several cities in this group were among the first in the country to put into practical application modern methods of

TABLE 3.—*Death Rates of Nine Cities in South Atlantic States from Diphtheria (Including Croup) per Hundred Thousand of Population*

	1932	1931	1930	1925-1929	1920-1924	1915-1919	1910-1914	1905-1909	1900-1904	1895-1899	1890-1894
Richmond.....	1.1†	5.4	5.5	6.9	9.8	5.8	7.0	9.8	24.4	17.6	59.7
Baltimore.....	1.8†	2.8	2.5	7.6	11.4	13.5	14.2	16.1	33.0	68.1	70.0
Wilmington....	1.9†‡	6.6	10.3	10.9	11.6	15.2	18.0	27.8	50.9	84.9	83.8
Norfolk.....	3.1‡	9.2	6.2	4.1	4.3	4.1	6.7	17.0	....	....	....
Washington....	3.2	7.1	3.7	7.1	10.5	11.9	6.9	11.2	23.5	50.9	77.9
Tampa.....	4.6	3.8	3.0	4.6	5.2	9.5#	....	....	....	....	....
Atlanta.....	4.9	3.2	1.1	7.0	13.3	10.1	12.5	14.2	11.1	10.5	8.8
Jacksonville....	7.1	2.3	5.4	6.0#	....	....	....	....	....	....	....
Miami.....	7.3	0.9	3.6	5.4#	....	....	....	....	....	....	....

† One third or more of the reported diphtheria deaths were stated to be in nonresidents.
‡ Rate computed from population as of April 1, 1930, as no estimate for July 1, 1932, was made by the Census Bureau.
# Incomplete data.

The preceding articles were published in THE JOURNAL, Sept. 20, 1924, p. 918; April 25, 1925, p. 1269; April 3, 1926, p. 1005; April 30, 1927, p. 1396; May 19, 1928, p. 1621; May 25, 1929, p. 759; June 7, 1930, p. 1838; May 23, 1931, p. 1768; May 7, 1932, p. 1644.

1. Typhoid in the Large Cities of the United States in 1932, J. A. M. A. **100**: 1491 (May 13) 1933.

2. It should be noted that the figures include all deaths of diphtheria that have occurred within the city limits, of nonresidents as well as residents. In some instances this undoubtedly gives an exaggerated impression of the amount of diphtheria in a community, but at present statisticians are agreed that "the attempt to eliminate the deaths of nonresidents would often result in an understatement of the true mortality" (Bureau of the Census, Mortality Statistics, 1912, p. 13). Cities in which one third or more of the reported diphtheria deaths are stated to have occurred in nonresidents are indicated in tables 1-8. A further discussion of the problem of the nonresident in diphtheria statistics was given in the report last year.

3. Albany, Utica, Yonkers; two other Middle Atlantic cities, Syracuse and Trenton, with only "nonresident" deaths, are perhaps nearly, if not quite, in the same class.

diphtheria control. New York, for the third year in succession, reports a very low rate. Special attention may be directed to the low rate for 1932 in Philadelphia (0.8), the best record yet achieved by any American city with a population of more than a million. The city

TABLE 4.—*Death Rates of Eighteen Cities in East North Central States from Diphtheria (Including Croup) per Hundred Thousand of Population*

	1932	1931	1930	1925-1929	1920-1924	1915-1919	1910-1914	1905-1909	1900-1904	1895-1899	1890-1894
Grand Rapids..	0.0	0.0	0.6	2.0	19.6	13.5	20.0	26.6	17.2	32.4	99.2
South Bend.....	0.0	0.9	5.8	....	....	....	....	....	....	....	....
Cleveland.....	1.4	1.2	4.1	15.3	14.7	20.0	24.6	20.8	42.6	45.3	95.7
Toledo.....	1.7	5.0	2.4	7.2	22.4	14.1	25.4	20.4	56.8	34.6	89.3
Chicago.....	1.9	6.2	12.2	11.7	17.5	31.2	37.9	27.0	33.9	69.7	117.3
Evansville.....	1.9	1.9	3.9	3.7	13.9	14.9	16.1	21.2	13.8	18.1	69.7
Indianapolis....	1.9	2.4	3.6	6.6	11.7	21.4	13.5	13.3	15.9	36.4‖	97.3#
Akron.....	2.2	1.1	3.1	4.9	10.4	18.9	27.8	21.8#	....	....	....
Milwaukee.....	2.5	1.8	3.6	8.5	11.4	19.8	27.8	26.4	22.7	51.7	116.2
Canton.....	2.8	0.9	1.9	2.9	17.5	15.1#	....	....	....	....	....
Cincinnati.....	2.8†	2.0	2.9	5.2	10.6	13.2	13.9	17.0	17.3	37.3	103.7
Flint.....	2.9	3.0	0.0	4.5	29.9	25.5	12.7	11.0	16.8	6.9	69.2
Columbus.....	3.7	3.4	3.4	4.6	8.5	7.6	12.1	10.5	11.6	28.5	56.9
Detroit.....	3.7	5.8	11.0	19.7	24.3	32.2	33.3	22.6	38.5	62.9	132.9
Youngstown....	5.7	2.9	6.5	10.5	18.5	11.9	40.5	33.5	28.0	17.6	28.4#
Fort Wayne....	5.8	4.2	0.9	5.1	13.1	6.3	....	....	....	....	....
Dayton.....	7.7	2.1	0.5	4.6	9.4	9.3	22.1	13.3	17.2	27.4	82.9
Peoria.....	12.6	1.8	5.7	4.9	7.4	10.8	10.6	10.9#	14.0	14.6	68.0

† One third or more of the reported diphtheria deaths were stated to be in nonresidents.
‖ Diphtheria deaths from Chapin's Municipal Sanitation.
Incomplete data.

TABLE 5.—*Death Rates of Six Cities in East South Central States from Diphtheria (Including Croup) per Hundred Thousand of Population*

	1932	1931	1930	1925-1929	1920-1924	1915-1919	1910-1914	1905-1909	1900-1904	1895-1899	1890-1894
Louisville.....	3.6	3.9	1.6	4.6	10.4	9.5	9.0	....	....	39.6‖	49.6‖#
Birmingham....	4.0†	3.7	7.7	5.4	5.3	7.2	8.3	6.2	13.4	16.5	26.3
Chattanooga...	4.8	9.8	1.7	5.9	8.7	8.9	....	....	....	....	....
Nashville.....	7.0†	6.4	11.7	11.8	8.0	8.9	7.3	10.3	13.9	30.1	28.4
Memphis.....	7.6†	10.8	4.7	5.8	9.5	11.2	11.9	13.4	6.9	10.0	28.5
Knoxville.....	15.2†	11.0	2.8	6.3	11.2	....	....	....	....	....	....

† One third or more of the reported diphtheria deaths were stated to be in nonresidents.
‖ Diphtheria deaths from Chapin's Municipal Sanitation.
Incomplete data.

TABLE 6.—*Death Rates of Nine Cities in West North Central States from Diphtheria (Including Croup) per Hundred Thousand of Population*

	1932	1931	1930	1925-1929	1920-1924	1915-1919	1910-1914	1905-1909	1900-1904	1895-1899	1890-1894
St. Paul.....	0.3*	1.1	2.2	5.2	17.5	20.7	31.4	31.1	27.9	43.3	75.4
Duluth.....	1.0*	0.0	1.0	2.0	6.0	10.2	8.8	38.2	29.1	7.6	49.5
Minneapolis.....	1.0	2.7	2.4	11.9	13.4	19.9	28.3	24.4	44.6	34.0	55.0
Kansas City, Kan.	2.4†	4.1	4.9	4.6	9.8	23.1	12.4#	....	....	....	....
Kansas City, Mo..	3.4†	3.9	4.0	4.7	14.4	22.8	15.7#	....	....	....	....
St. Louis.....	3.5	4.6	5.1	10.3	16.1	24.4	23.7	19.4	43.3	62.9	67.7
Omaha.....	6.8	8.3	4.7	6.4	22.9	35.8	15.8	24.5	30.5	28.2	82.9
Des Moines.....	8.2	0.7	2.1	5.2	15.1	16.6	15.1	23.8#	....	....	....
Wichita.....	9.2	5.2	3.6	4.2	....	....	....	....	....	....	....

* All of the diphtheria deaths reported were stated to be in nonresidents.
† One third or more of the reported diphtheria deaths were stated to be in nonresidents.
# Incomplete data.

of Camden brings up at the foot of the list, as it did in 1931; this city also had the highest typhoid rate in the group in 1932.[1]

Several of the South Atlantic cities (table 3) show notable improvement over preceding years, Richmond, Baltimore and Wilmington all having low rates. The three Florida cities Tampa, Jacksonville and Miami, on the other hand, report rates that indicate an excessive prevalence of diphtheria. It is a little surprising to find that Miami in 1932 records more than double the diphtheria rate in New York.

The East North Central cities (table 4), which in 1925-1929 had the highest average diphtheria rate of any section of the country, have made the greatest relative improvement and now are second only to the Middle Atlantic cities. Particularly notable in this group stands the city of Cleveland. The reduction in diphtheria in recent years in Detroit, and particularly in Chicago, is quite spectacular. South Bend, also in this group, is apparently the only city in the country which in 1932 lost none of its citizens from either diphtheria or typhoid. Dayton and Fort Wayne seem to have had an unusual prevalence of the disease, and Peoria has apparently had a real epidemic.

The East South Central cities (table 5), as a whole, do not show much change from the preceding year. Louisville, Birmingham and Nashville having very similar rates to those for 1931. Knoxville, however, had next to the highest rate in the table, being exceeded only by Dallas.

Although the group rate for the cities of the West North Central states (table 6) does not register much change, individual cities such as St. Paul, Minneapolis, Kansas City, Mo., and particularly St. Louis, show

TABLE 7.—*Death Rates of Eight Cities in West South Central States from Diphtheria (Including Croup) per Hundred Thousand of Population*

	1932	1931	1930	1925-1929	1920-1924	1915-1919	1910-1914	1905-1909	1900-1904	1895-1899	1890-1894
Houston.....	5.5	3.9	4.1	8.2	6.4	6.1	7.8	10.5	4.2#	2.4	1.8
New Orleans....	5.5	3.8	8.5	8.5	6.5	11.6	19.6	10.2	11.5	17.1	51.3
El Paso.....	5.6	5.7	8.8	7.3	20.0	17.6	29.2	....	....	....	....
San Antonio....	6.5	6.2	7.3	10.3	7.7	8.7	6.7	7.6	17.1	20.6	4.4
Tulsa.....	7.3	15.1	2.1	12.5	8.3#	....	....	....	....	....	....
Oklahoma City	8.2	5.1	7.0	10.9	....	....	....	....	....	....	....
Fort Worth....	11.7	7.2	4.3	10.8	1.7#	2.6#	2.6	2.8	5.4	....	....
Dallas.....	16.3	6.6	6.9	9.8	8.3	7.4	6.9	8.1	16.9	16.0	21.8

Incomplete data.

TABLE 8.—*Death Rates of Eleven Cities in Mountain and Pacific States from Diphtheria (Including Croup) per Hundred Thousand of Population*

	1932	1931	1930	1925-1929	1920-1924	1915-1919	1910-1914	1905-1909	1900-1904	1895-1899	1890-1894
Seattle.....	0.3	0.3	1.6	1.4	6.6	5.5	5.2	12.5	13.4#	27.2‖	....
Salt Lake City.	0.7	0.0	0.7	10.1	12.5	14.5	15.1	34.2	46.0	14.8	56.7#
Spokane.....	0.8	0.8	1.7	7.5	11.3	4.2	7.6	25.8	....	59.5‖	18.1
Tacoma.....	0.9	8.3	8.4	9.3	12.4	7.7#	....	....	....	....	....
Long Beach....	1.2	0.6	1.4	2.6	10.4#	....	....	....	....	....	....
San Francisco..	1.5	0.8	2.2	4.6	23.0	17.0	9.2	14.4	44.2	21.6	54.8
Portland.....	2.2	0.6	2.3	6.4	11.3	6.0	12.3	12.2	20.2	....	....
Oakland.....	2.3†	0.3	3.9	7.4	18.8	8.1	10.3	16.1	29.1	....	....
San Diego.....	3.1†	2.5	2.0	6.6	12.2	10.5	8.0	5.8	2.4	....	....
Denver.....	5.4	4.4	3.5	8.9	23.2	6.7	10.2	20.8	29.6	27.3	130.2
Los Angeles....	6.3	5.2	5.6	7.0	14.4	7.1	7.5	15.3	25.4	35.8	46.0

† One third or more of the reported diphtheria deaths were stated to be in nonresidents.
‖ Diphtheria deaths from Chapin's Municipal Sanitation.
Incomplete data.

TABLE 9.—*Ten Cities with Highest Diphtheria Rates for 1932*

Dallas	16.3	Wichita	9.2
Knoxville	15.2	Camden	8.4
Peoria	12.6	Des Moines	8.2
Fort Worth	11.7	Oklahoma City	8.2
Lowell	11.0	Memphis	7.6

TABLE 10.—*Ten Cities with Lowest Diphtheria Death Rates for 1932*

Albany	0.0	St. Paul	0.3
Grand Rapids	0.0	Seattle	0.3
South Bend	0.0	Newark	0.4
Utica	0.0	Syracuse	0.5
Yonkers	0.0	New Haven	0.6

steady improvement. St. Paul and Duluth, indeed, report their only deaths as among nonresidents. Des Moines and Wichita seem to have had small epidemics.

Six of the eight West South Central cities (table 7) show an increase in 1932 over 1931 and the group as a whole has an average rate of 8.16 in 1932, as against 5.93 in 1931. Fort Worth and Dallas, the latter with the highest rate among the ninety-three cities, seem to be the chief sufferers from this disease. It is curious that diphtheria should now be so relatively prevalent in this region, since from 1900 to 1920 the cities of the Southwest had considerably less diphtheria mortality than the rest of the country.

The Mountain and Pacific group of cities (table 8) shows an increase in the diphtheria rate from 2.71 for 1931 to 3.43 for 1932, Tacoma being the only city in the group to register a reduction. Seattle continues to have a lower rate than Portland, and San Francisco than San Diego and Los Angeles.

TABLE 11.—*Number of Cities with Various Diphtheria Death Rates*

	No. of Cities	40 and Over	20 and Over	10 and Over	5 and Over	Under 5
1890-1894	64	52	60	61	62	2
1895-1899	66	34	53	63	65	1
1900-1904	68	22	46	64	66	2
1905-1909	72	3	43	66	71	1
1910-1914	79	1	36	63	78	1
1915-1919	84	0	25	62	81	3
1920-1924	88	0	14	65	86	2
1925-1929	92	0	1	22	67	25
1927	92	0	2	31	62	30
1928	92	0	1	21	58	34
1929	92	0	2	17	47	45
1930	93	0	2	11	32	61
1931	93	0	0	3	29	64
1932	93	0	0	5	27	66

TABLE 12.—*Total Diphtheria Death Rate for Eighty-Eight Cities, 1923-1932* *

	Population	Diphtheria Deaths	Diphtheria Death Rate per 100,000 Population
1923	31,000,848	4,078†	13.13
1924	31,729,841	3,439	10.84
1925	32,384,834	3,133	9.67
1926	33,046,827	3,106	9.40
1927	33,708,820	3,493	10.36
1928	34,370,813	3,176	9.24
1929	35,032,806	2,738	7.82
1930	35,694,802	1,827	5.12
1931	36,503,412	1,366	3.74
1932	37,084,712	1,191	3.21‡

* The five following cities are omitted from this summary because data for the full period are not available: Jacksonville, Miami, Oklahoma City, South Bend and Utica.
† Datta for Fort Worth lacking.
‡ The rate for the ninety three cities in 1932 is 3.25 (population 37,753,512; diphtheria deaths, 1,226). The corresponding rate in 1930 was 5.12, and 3.72 in 1931.

TABLE 13.—*Total Diphtheria Death Rates per Hundred Thousand of Population for Ninety-Three Cities According to Geographic Divisions*

	1932 Population	Diphtheria Deaths 1932	Diphtheria Deaths 1931	Diphtheria Death Rates 1932	1931	1930	1925-1929
New England	2,631,505	96	114	3.65	4.35	4.57	8.34
Middle Atlantic	13,038,300	330	356	2.53	2.78	4.10	9.97
South Atlantic	2,375,507	76	104	3.20	4.42	3.65	7.37*
East North Central	9,759,600	259	406	2.65	4.23	7.79	11.21†
East South Central	1,242,500	76	84	6.11	6.87	5.00	6.34
West North Central	2,720,700	91	100	3.34	3.72	3.74	7.82
West South Central	1,961,700	160	113	8.16	5.93	6.43	9.24‡
Mountain and Pacific	4,023,700	138	106	3.43	2.71	3.59	6.28

* Lacks data for 1925 for Jacksonville and Miami.
† Lacks data for South Bend.
‡ Lacks data for Oklahoma City for 1925 and 1926.

At the present time, the cities in the United States that have a cold winter and a generally "bad climate" are faring considerably better with respect to diphtheria than the Southern cities and the climatic resorts of the Western coast. Long term records, however, will be necessary fo rthe proper interpretation of these somewhat surprising records.

Council on Pharmacy and Chemistry

THE COUNCIL HAS AUTHORIZED PUBLICATION OF THE FOLLOWING REPORT. PAUL NICHOLAS LEECH, Secretary.

CITROCARBONATE, ACETONYL, SALICIONYL, BROMIONYL, BROMIONYL WITH ACETYL-SALICYLIC ACID, BROMIONYL WITH BARBITAL, OINTMENT SCABICIDE, KEROLYSIN, SUPER D COD LIVER OIL; PRODUCTS OF THE UPJOHN COMPANY, NOT ACCEPTABLE FOR N. N. R.

For many years the Upjohn Company of Kalamazoo, Mich., has exploited to the medical profession, and indirectly to the public, a large number of pharmaceutic preparations; many have been marketed with unwarranted and extravagant therapeutic claims; some with therapeutically suggestive names; not a few are of semisecret composition. This firm has developed promotion through the agency of "detail men" to a high state of efficiency. Many physicians attest the insidious persuasiveness of these advance agents, their generosity with samples, the brilliant spectrum of their line of pills, the profusion of their "literature." Some preparations of the Upjohn Company have in a few communities largely replaced standard nonproprietary products of equal or greater merit, to the financial benefit of the firm and to an equivalent financial detriment to the public.

The following are examples of some of the more widely used Upjohn preparations; space does not permit discussion of all the unacceptable products of this firm:

Citrocarbonate.—This is stated to be "An alkaline, effervescent mixture of organic salts of Lime, Potassium, Sodium, and Magnesium properly balanced" and was formerly known as "Tribasic Citrocarbonate." According to the advertising matter, "Each teaspoonful (about 60 grains, 4 Gm.) when dissolved presents approximately 12½ grains (0.8 Gm.) free sodium bicarbonate, 28 grains (1.8 Gm.) sodium and potassium bicarbonates as citrates and tartrates, 2½ grains (0.162 Gm.) calcium lactate, with correct proportions of phosphates, sulphates and magnesium. Contains about 2% sodium chloride." Nowhere in the extensive advertising material on this product is there a complete quantitative statement of composition. Just how sodium and potassium bicarbonates can be represented in solution as citrates and tartrates is not quite clear (presumably the latter salts are formed during effervescence; the citrates would be oxidized in the body to carbon dioxide and water but the tartrates are poorly absorbed and hence would be practically unavailable, and are not readily burned in the body at best). It must indeed have been an epoch-making discovery that indicated the "correct proportions" of phosphates, sulphates and magnesium; unfortunately this great contribution has not yet come to the attention of the Council. It is said that "Citrocarbonate contains all those elements which normally preserve physiological alkalinity . . . so proportioned as to approximate normal blood plasma ratios." Just what value there can be in the administration of ions in fixed proportion in this way is not apparent; the food intake would immediately and considerably disrupt this exquisite balance. The body economy has somehow managed these millions of years to maintain its own ionic equilibrium. The Council knows of no indications in conditions in which ordinarily alkaline therapy is of benefit for supplying salts other than those of sodium and occasionally those of calcium. Contrary to the emphatic statements of the firm, there is no reliable evidence that harm has come from the intelligent administration of sodium bicarbonate alone. When alteration of the normal ionic equilibrium does

occur in disease, the normal ratios of cations would no longer maintain. If we follow the Upjohn logic correctly, the way to restore the equilibrium is to administer the ions in the ratios occurring in normal blood; obviously, if some cations are relatively more deficient than others, the former should be supplied in *relatively greater* quantities. Citrocarbonate still throws the burden of compensation on the selective physiologic mechanisms of the body. It is therefore quite absurd to administer so "carefully adjusted" a mixture when the regulatory organs must perform their selective functions anyway.

In the advertising literature occurs the following statement:

"Making it Easier to Drink Enough Water"

"Because of its palatability Citrocarbonate may be used to advantage in much diluted form when a large or measured intake of water is one of the requirements. It frequently becomes quite a monotonous proceeding for a patient to drink say 8 or 12 glasses of water a day. It aids matters considerably to instruct that half of these drinks be taken with a teaspoonful of Citrocarbonate in a full glass of cold water. This gives variety and adds palatability and 'snap' to the draught, while the diuretic and systemic effects of the water are correspondingly enhanced."

It is well known that the administration of large quantities of water, when this is done therapeutically, or when it is necessary to replenish the water loss of profuse sweating, may result in symptoms of alkalosis, owing to a lack of chloride. It is also well known that the addition of small quantities of sodium chloride to the drinking water renders it sufficiently palatable and prevents or alleviates the distressing symptoms; in fact, the latter is now so widely appreciated that it is standard practice among blast-furnace workers, miners and others who must work in surroundings of high temperature; yet for the effective table salt, physicians are urged by the Upjohn Company to substitute the proprietary Citrocarbonate, which contains only 2 per cent of sodium chloride, and enough base considerably to enhance the induced alkalosis!

To many persons, Citrocarbonate affords a not unpleasant beverage; in fact, it may be said to appeal to some palates not wisely but too well. This is particularly true in these days of widespread belief in the efficacy of alkaline therapy in the prevention of colds, influenza and related disorders. In this the Upjohn Company has not been entirely guiltless: witness

"Citrocarbonate
" —— to prevent
" —— to abort
" —— to alleviate
"COUGHS and COLDS"

In fact, in its earlier days, Citrocarbonate aspired to the virtues of a panacea:

"ALKALIES are of such general usefulness in infections of various kinds that a tentative use of Citrocarbonate should be worthwhile in baffling cases of doubtful diagnosis."

In other words, when in doubt, don't find out! Try Citrocarbonate!

And even in the most recent literature of this firm, this alkaline mixture is indicated as being therapeutically useful in a variety of diseases, the list of which resembles in scope, if not in detail, the index to a modern textbook on medicine. Yet, in extenuation, the qualifying footnote should be quoted:

"Not that the list is exhaustive; nor that alkali is always indicated. The thought is to set forth the great range of possible usefulness for Citrocarbonate, when applicable. Alkaline therapy is not for any disease, as such; it is really an attempt to reconstitute the electrolyte and water structure of the body fluids, which is the basis for colloid chemistry and hence of cell-function; a restorative measure worthy of consideration whenever the integrity of the body fluids has been impaired by disease, drugs, diet, or other cause."

Thus, with a fine similitude of modern, if somewhat obscure, science do we progress! It is indeed unfortunate that the Upjohn Company considers it necessary to invoke the hocus-pocus of its particular brand of colloid chemistry as a background for the exploitation of a shotgun mixture.

Space is not available for discussion of the many other extravagant claims made for this preparation.

The Council declared Citrocarbonate unacceptable for inclusion in N. N. R. because it is a mixture of semisecret and unscientific composition, containing an excessive number of active ingredients (rules 1, 2 and 10), marketed with extravagant and unwarranted therapeutic claims (rule 6) under a misleading and uninformative name (rule 8).

Acetonyl.—One might judge from this name that this preparation is in some way related to acetone, yet it is said to constitute "Granular Effervescent Alkaline Acetylsalicylates." Each teaspoonful ("about 60 grains") of this mixture in 6 ounces of cold water is stated to represent "Acetylsalicylic Acid (as the sodium salt) 7½ grs. together with the bicarbonates, citrates, and tartrates of sodium, potassium, calcium, and magnesium, having a combined systemic alkalizing effect equivalent to 33.5 grs. sodium bicarbonate." In the 1931 catalogue it was claimed: "In most conditions in which acetylsalicylic acid is used its combination with alkaline treatment is more effective than is the acetylsalicylic acid itself in tablet form. This is explained in part by its more prompt absorption. Of greater importance is the fact that acidosis is commonly present in conditions calling for acetylsalicylic acid, and where it does exist its tendency is to increase pain and irritability. The formula is so calculated as not only to insure absorption and elimination of the acetylsalicylic acid without drawing on the alkaline reserves of the body, but to provide a systemic alkalizing effect as well." Again the specter of acidosis! There is no good evidence that the administration of alkalis with salicylates modifies their systemic effects in any way; it does diminish gastric irritation. Certainly the equivalent of 33½ grains (2.2 Gm.) of sodium bicarbonate for each 7½ grains (0.5 Gm.) of acetylsalicylic acid must be considered excessive. There is, furthermore, no satisfactory evidence for the statement that "acidosis is commonly present in the conditions calling for acetylsalicylic acid." The quantities of the various alkaline salts present are not declared; hence the preparation must be considered semisecret; it is apparently also unnecessarily complex.

In the 1933 catalogue it seems no longer necessary to explain the principles that guided the Upjohn Company to the preparation of this mixture; the following statement is now deemed sufficient: "Acetonyl is analgesic and antipyretic, and is particularly useful in such affections as neuralgias, headaches, and similar conditions, as well as in colds, influenza, and fevers." And, one may add, so are ordinary tablets of acetylsalicylic acid.

Not a few individuals are hypersensitive to salicylic acid preparations. Many, if not most, such individuals sooner or later learn of this idiosyncrasy and therefore avoid such medication, or at least take it only in tolerable dosage. Here we have another salicylate mixture marketed under a name nondescriptive of its active component; self medication to the point of toxicity might readily occur, particularly as the solution is not unpalatable to many persons.

For this reason and for others identical with those that determined the Council's action in the case of Citrocarbonate, Acetonyl was declared unacceptable for N. N. R.

Salicionyl.—This is claimed to be "A granular effervescent salt presenting sodium salicylate in such a way as to reduce the incidence of those unpleasant features which complicate the use of salicylates alone. Each heaping teaspoonful (about 60 grains), when dissolved, presents approximately 10 grains of sodium salicylate with 20 grains of free alkaline bicarbonate, plus a mixture of the citrates and tartrates in proper balance to assure systemic alkalization. . . . The alkalizing effects of Salicionyl, nearly equal to those of Citrocarbonate, are helpful in meeting the acidotic [sic] tendencies which mark the conditions for which salicylates are given, such as rheumatic fever, tonsillitis, and other infections *known to have an acidotic background* [italics ours]."

It is obvious that the objections made for Acetonyl apply also to this preparation. One wonders why the firm should market this mixture if the advantages claimed for Acetonyl are all they were stated to be.

The Council therefore declared Salicionyl unacceptable for New and Nonofficial Remedies.

Bromionyl.—This is another granular effervescent salt. It is stated, "Each teaspoonful (about 60 grains) when dissolved in six ounces of cold water, presents a palatable carbonated draught approximately equivalent to: Sodium Bromide... 9.50 grs. Calcium Bromide...3.75 grs. Potassium Bromide... 2.50 grs. The solution has a systemic alkalizing effect (as citrates and tartrates) equivalent to 27 grains of sodium bicarbonate."

The idea that a mixture of several bromides is of greater therapeutic usefulness than sodium bromide alone was long ago discarded, yet a number of pharmaceutic manufacturers seem not yet to be aware of it. Like the preceding Upjohn preparations, Bromionyl is of semisecret composition, and the name is objectionable. Although it is recommended in dosages equivalent to from 60 to 75 grains (4 to 5 Gm.) of bromine per day, no mention is made of the possibility of bromidism—which indeed has occurred following the use of this preparation. Its palatability would be likely to lead patients to indulge in it too freely. The rationale of combining large quantities of alkali with bromide medication is not apparent.

Bromionyl is not acceptable for New and Nonofficial Remedies because it is apparently an unnecessarily complex mixture of semisecret composition (rules 1, 2 and 10) sold under a misleading name (rule 8).

The Upjohn Company also markets *Bromionyl with Acetylsalicylic Acid* and *Bromionyl with Barbital;* these are even less acceptable than the parent mixture; they involve fixed ratios of bromide with acetylsalicylic acid in one case and of bromide with barbital in the other. Because of differences in the rates of elimination of these substances from the body, dosage in fixed ratio is irrational.

Ointment Scabicide.—Ointment Scabicide is said to contain "the polysulphides of potassium." No statement is made as to which or how much of the four potassium polysulphides are present in this ointment. The alkaline sulphides have long been known as depilatories, although the potassium salts are not as effective in this respect as some of the others; they are consequently effective also in dissolving the superficial layers of the skin. Aside from the decidedly unpleasant odor associated with the liberated hydrogen sulphide, one would hesitate to anoint the entire body with a preparation having such keratolytic properties. It is admitted in the advertising that more than one application may produce dermatitis; one is inclined to believe that, in some persons, even one application might cause inflammation; a member of the Council has seen severe generalized dermatitis from self medication with this mixture. The claimed advantage of rapid action would hardly compensate for the possible deleterious effects of this ointment.

Scabicide was declared unacceptable for New and Nonofficial Remedies because it is a semisecret preparation (rules 1 and 2), apparently of unscientific composition (rule 10), marketed with a therapeutically suggestive name which has frequently led to self medication by the public (rules 4 and 8).

Kerolysin.—Another therapeutically suggestive name. Kerolysin is said to contain "Acid Benzoic 12%, Acid Salicylic 6%, Thymol 1¼% in a suitably adapted ointment base." This is obviously nothing but a modification of the well known Whitfield's ointment, certainly not deserving a proprietary name.

This very potent preparation (the benzoic and salicylic acid contents are even greater than those of the Whitfield ointment) has been responsible in many cases for severe local tissue destruction, particularly in patients who were self medicated. Furthermore, Kerolysin is recommended as "a valuable aid as a deodorant antiseptic and antipruritic, in the treatment of a number of conditions which may or may not be dependent upon fungicidal infection, such as sweaty feet, soft corns, bromidrosis, dysidrosis, hyperidrosis, axillary irritation, or eczema, pruritis ani, etc. . . ."

Needless to say, the use of such a corrosive preparation in any of these conditions deserves hearty condemnation.

It is also stated, "Let the patient use persistently until sound skin is regenerated. . . ." Those who have had experience with local medication with the active components of Kerolysin know the severe tissue destruction that follows their "persistent" use.

The Council declared Kerolysin to be unacceptable for New and Nonofficial Remedies because it is an unessential modification of a well known mixture, marketed with unwarranted therapeutic claims under a proprietary, therapeutically suggestive name, uninformative of its essential constituents (rules 4, 6 and 8).

Super D Cod Liver Oil.—Super D is said to be assayed by the U. S. P. method for vitamin A potency and to contain not less than 25,000 units per ounce. It is said also to represent "a vitamin D potency of not less than 10,000 units per ounce, controlled by the McCollum line test, and secured by special methods of selection and by the addition as required of vitamin D." It is stated to contain a small amount of flavoring material. The vitamin D assay units are not qualified as to magnitude and hence are essentially meaningless (although judging from the description in the recent advertising literature these are probably intended to mean A. D. M. A. units). It is not stated how the vitamin D is added, whether as viosterol or as a concentrate of cod liver oil, or by irradiation or in some other way. The preparation appears, therefore, to be semisecret. The name may or may not indicate that this may be a fortified oil; it requires careful reading of the description to determine this.

It seems that the oil may or may not be fortified as the firm deems it expedient; it is claimed that "The Super D of this date [November 1931] has a *natural potency of at least 10,000 units* of vitamin D per ounce."

The name "Super D" conveys an implication of superiority not warranted by any evidence available to the Council; this preparation appears to be no better than—if as good as—products accepted for New and Nonofficial Remedies, and sold under much more modest and informative names and of which the potency is clearly stated. Physicians would do well to restrict their cod liver oil prescriptions to those preparations listed in New and Nonofficial Remedies, of which there is an ample number; in this way they may be assured of the use of products the potencies of which have been definitely established and are indicated in unmistakable terms. They would also be dealing with firms which market their products in accordance with the rules of the Council.

Super D Cod Liver Oil was declared unacceptable for New and Nonofficial Remedies because of its semisecret composition and indefinitely designated vitamin potency (rules 1 and 2) and because of its objectionable name (rule 8).

Committee on Foods

THE FOLLOWING PRODUCTS HAVE BEEN ACCEPTED BY THE COMMITTEE ON FOODS OF THE AMERICAN MEDICAL ASSOCIATION FOLLOWING ANY NECESSARY CORRECTIONS OF THE LABELS AND ADVERTISING TO CONFORM TO THE RULES AND REGULATIONS. THESE PRODUCTS ARE APPROVED FOR ADVERTISING IN THE PUBLICATIONS OF THE AMERICAN MEDICAL ASSOCIATION, AND FOR GENERAL PROMULGATION TO THE PUBLIC. THEY WILL BE INCLUDED IN THE BOOK OF ACCEPTED FOODS TO BE PUBLISHED BY THE AMERICAN MEDICAL ASSOCIATION.

RAYMOND HERTWIG, Secretary.

SUNRISE PANCAKE FLOUR

Manufacturer.—Concordia Milling Company, Concordia, Kan.

Description.—A self rising pancake flour containing soft and hard wheat flours, sodium bicarbonate, calcium acid phosphate, dextrose, salt and powdered skim milk.

Manufacture.—The ingredients are mixed in a batch mixer and automatically packed in bags.

Analysis.—(submitted by manufacturer).—

	per cent
Moisture	12.3
Ash	4.4
Fat (ether extraction method)	1.2
Protein (N × 6.25)	10.7
Crude fiber	0.6
Reducing sugars as invert sugar	0.4
Sucrose	1.8
Carbohydrates other than crude fiber (by difference)	70.8

Calories.—97 per gram; 3.4 per ounce.

Claims of Manufacturer.—For making pancakes and biscuits.

EDDY'S PAN DANDY BREAD
EDDY'S TWIST LOAF

Manufacturer.—Eddy Bakeries, Helena, Mont.

Description.—White breads made by the sponge dough method (method described in THE JOURNAL, March 5, 1932, p. 817); prepared from patent flour, water, sucrose, powdered skim milk, butter, salt, yeast and yeast foods containing calcium sulphate, ammonium chloride, sodium chloride and potassium bromate and buttermilk, calcium phosphate and ammonium tartrate.

Claims of Manufacturer.—Conform to the United States Department of Agriculture definition and standard for white bread. The only shortening used is butter.

WHITE HOUSE NATURAL BROWN RICE FLAKES

(FLAVORED WITH SUGAR, SALT AND MALT)

Manufacturer.—Standard Rice Company, Inc., Houston, Texas.

Description.—Cooked, flaked and toasted brown rice; flavored with sugar, salt and malt syrup.

Manufacture.—Natural brown rice containing the natural bran with the formula proportion of sucrose, salt, malt syrup and water is steam cooked in revolving sealed steel drums. The cooked mass is broken into separate granules, which are dried to a moisture content suitable for their flaking between steel rolls. The flaked rice is toasted in revolving ovens, is passed over screens to remove fine material, and packed in wax-paper wrapped cartons.

Analysis (submitted by manufacturer).—

	per cent
Moisture	3.1
Ash	4.3
Fat (ether extraction method)	2.0
Protein (N × 5.95)	8.5
Crude fiber	0.7
Carbohydrates other than crude fiber (by difference)	81.4

Calories.—3.8 per gram; 107 per ounce.

Vitamins.—Biologic assay shows the rice flakes contain considerable vitamin B approximating that of brown rice.

PET KOKO

Manufacturer.—Pet Milk Company, St. Louis.

Description.—Mixture of evaporated milk (four parts) and a chocolate and malt flavored syrup (one part) containing sucrose, water extract of cocoa, and malt syrup; sterilized.

Manufacture.—The cocoa extract is made by digesting cocoa in hot water; the decoction is filtered. The filtrate is admixed with sucrose and malt extract. The chocolate and malt flavored syrup is mixed with Pet Evaporated Milk in the stated proportions, is canned and is processed at 116-121 C. until sterile.

Analysis (submitted by manufacturer).—

	per cent
Moisture	64.4
Total solids	35.6
Ash	1.1
Fat	6.3
Protein (noncaffeine and nontheobromine N × 6.25)	5.6
*Cocoa red	0.2
Theobromine and caffeine	0.01
Carbohydrates (essentially sucrose, lactose and maltose) (by difference)	22.6

* Ulrich method (J. A. O. A. C., 1916, page 550).

Calories.—1.7 per gram; 48 per ounce.

Claims of Manufacturer.—For the preparation of chocolate and malt flavored milk drinks and other food recipe preparations.

WHITE ROCK BRAND CRYSTAL TABLE SYRUP

(CORN SYRUP FLAVORED WITH ROCK CANDY SYRUP)

Manufacturer.—Wheeler-Barnes Company, Minneapolis.

Distributor.—Andrew Kuehn Company, Sioux Falls, S. D.

Description.—Corn syrup flavored with rock candy syrup (the same as White Oak Brand Crystal White Syrup, 85 per cent Corn Syrup, 15 per cent Rock Candy Syrup, THE JOURNAL, Oct. 15, 1932, p. 1353).

PRINCESS CORN MEAL

Manufacturer.—Blanton Milling Company, Indianapolis.

Description.—Corn meal practically free from corn germ and bran. The same as Evan's E-Z Bake Corn Meal (THE JOURNAL, March 18, 1933, page 819).

EZEMADE BISCUITS—A MIX

Manufacturer.—Zanol Products Company, subsidiary to the American Products Company, Cincinnati.

Description.—Self-rising flour containing patent flour (bleached), vegetable shortening, sucrose, powdered skim milk, salt, sodium acid pyrophosphate, sodium bicarbonate and calcium acid phosphate.

Manufacture.—The ingredients in definite proportions are thoroughly mixed in a batch mixer and packed in wax paper inserts in wax paper wrapped cartons. The shortening used is specially modified to increase its stability against the development of rancidity. The product has been tested for rancidity after six months at ordinary room temperature and at 35 C.; no rancidity developed under these conditions.

Analysis (submitted by manufacturer).—

	per cent
Moisture	10.2
Ash	3.6
Salt	1.5
Fat (ether extraction method)	12.8
Protein (N × 6.25)	7.6
Crude fiber	0.2
Carbohydrates other than crude fiber (by difference)	65.6

Calories.—4.1 per gram; 116 per ounce.

Claims of Manufacturer.—Requires only the addition of liquid for the preparation of biscuit dough.

REPORTS OF THE COMMITTEE

THE COMMITTEE HAS AUTHORIZED PUBLICATION OF THE FOLLOWING REPORTS.

RAYMOND HERTWIG, Secretary.

NOT ACCEPTABLE

CERTAINTY HEALTH BRAN

The Beaver Valley Milling Company, Des Moines, Iowa, submitted to the Committee on Foods an "all bran" product prepared from wheat called "Certainty Health Bran."

Discussion of Name and Label.—The name Certainty Health Bran and the prominent label claim "For your health's sake" signify that this bran will assure health to the user, a type of claim no more warranted for bran than for any other food; no food provides or assures health. A complete diet adequate in all food essentials is necessary for health, but health depends on many other factors than nutrition. The claim that the product is "sterilized" is not in keeping with the method of preparation described by the manufacturer. A sterilized food is free of viable organisms. It is further stated that "many doctors insist on the use of bran as an aid to digestion and the best known of nature's stimulants to aid the functioning of the bowels; as it cleanses the digestive organs and eliminates the poison which often clogs the system." Doctors do not insist on the use of bran as an aid to digestion; bran is not a digestive aid. The attributing of a claim of this nature to doctors is especially a misleading presumption. It is appropriate to claim that constipation due to insufficient roughage in the diet will yield to bran eaten regularly. Bran is not "the best known of nature's stimulants to aid the functioning of the bowels" nor can bran be depended on "to cleanse the digestive organs."

The name and claims are inappropriate, misinformative and misleading. The manufacturer after being advised of the Committee's report has not shown willingness to change the name or claims. This product will therefore not be listed among the Committee's accepted foods.

NOT ACCEPTABLE

JOHNSTON GRAHAM CEREAL DOTS
JOHNSTON GRAHAM CRACKERS

The Robert A. Johnston Company, Milwaukee, submitted to the Committee on Foods a cereal called "Johnston Graham Cereal Dots," prepared from patent flour, whole wheat flour, sucrose, malt extract, lard, brown sugar, molasses, baking soda, salt, annatto coloring, ammonium bicarbonate, imitation vanilla (vanillin and coumarin), magnesium carbonate and sodium sulphite; and a cracker called "Johnston Graham Crackers" prepared from patent flour, whole wheat flour, sucrose, malt extract, lard, brown sugar, molasses, baking soda, salt, honey, annatto coloring, ammonium bicarbonate, imitation vanilla (vanillin and coumarin), magnesium carbonate and sodium sulphite.

Discussion of Names, Label, and Composition.—The names "Graham Dots" and "Graham Crackers" signify that whole wheat is the only farinaceous ingredient; this is contrary to the fact, since whole wheat is in much smaller proportion than white flour in the manufacturing formula. The term "graham" is associated with ground whole wheat or ground whole wheat products as indicated by the United States Department of Agriculture definitions and standards for whole wheat flour

and whole wheat bread. In these definitions, "whole wheat flour" and "whole wheat bread" are synonymous with "graham flour" and "graham bread." According to the names, the public can rightfully expect whole wheat flour to be the sole wheat ingredient of the cereal and crackers. The added annatto golden coloring gives a color simulating that of a whole wheat product and thereby would create the impression of a greater whole wheat content than is actually present and increases the misleading nature of the names. These are not a true graham cereal or a true graham cracker but a white flour-graham cereal and a white flour-graham cracker and should be named accordingly. The sodium sulphite and magnesium carbonate components are not essential or appropriate ingredients of foods. The label statement "with milk or cream they are . . . rich in bone building calcium" indicates that the Cereal Dots are rich in calcium, which is incorrect and misleading. The milk will provide essentially all the calcium but not the cereal. The names and label claims are misinformative and deceptive, and the added magnesium carbonate and sodium sulphite ingredients are inappropriate, unnecessary components of foods.

The manufacturer was informed of the Committee's report but is unwilling to change the names for business reasons or eliminate the sodium sulphite from the formula. These Graham Crackers and Cereal Dots will therefore not be listed among the Committee's accepted foods.

NOT ACCEPTABLE

HEALTH-E ICE CREAM CONES

The Illinois Baking Corporation, Chicago, submitted to the Committee on Foods an ice cream cone called "Health-E Ice Cream Cones" prepared from flour, sucrose, cocoa, shortening, tapioca, chocolate syrup, dried milk, salt, imitation vanilla and certified coloring.

Discussion of Name and Claims.—The name "Health-E Cones" implies the presence of specific health values. The cones are no more healthy or by virtue of composition related with health than are any other wholesome foods. Names of this character lead to misleading "health food" advertising, as exemplified by the claims "individually wrapped for health's sake" and "contains vitamin D for health" used for these cones. The manufacturer has not furnished information to substantiate a vitamin D claim nor do the ingredients of the cones justify such a claim.

The manufacturer was advised of the Committee's report but is unwilling to change the name for business reasons. These Health-E Cones will therefore not be listed among the Committee's accepted foods.

NOT ACCEPTABLE

PETRA'S LAXO BREAD

The Petra Baking Company, Olean, N. Y., submitted to the Committee on Foods a bread containing white, whole wheat and rye flours, sweetened condensed skim milk, wheat bran, pulverized flax seed, sucrose, salt, yeast and malt syrup.

DISCUSSION OF NAME AND LABEL

The name "Laxo" does not identify the ingredients which differ from those of the usual breads. The public is entitled to know the composition of the compound foods it consumes. A descriptive statement identifying the unexpected ingredients should accompany the trade name, a procedure which tends to prevent misleading and misinformative advertising. The prominent label claim "Eat Laxo Bread regularly and eliminate constipation" implies that this bread will correct constipation due to any cause. The bread furnishes more indigestible residue than does white bread but less than whole wheat bread; the product, therefore, may be expected to be helpful for counteracting constipation due to insufficient roughage in the diet but not to constipation due to other causes. To inform the users of the bread properly, an appropriate claim is that Laxo Bread eaten regularly will aid in counteracting constipation due to insufficient bulk in the diet.

The company was advised of the Committee's recommendations but has displayed no willingness to comply; this bread will therefore not be listed among the Committee's accepted foods.

NOT ACCEPTABLE

CREAMO AND BUTTER-NUT BREAD BRANDS

The Muller Bakeries, Inc., Grand Rapids, Mich., submitted to the Committee on Foods several brands of white breads with the trade names "Creamo" and "Butter-nut" containing patent flour, water, lard, salt, powdered skim milk, yeast, malt syrup and a yeast food containing calcium sulphate, ammonium chloride, sodium chloride and potassium bromate.

DISCUSSION OF NAMES

Butter-Nut Brand.—The name "Butter-Nut" presumably indicates that the bread contains either "butter and nuts" or "butternuts" and in such quantity as to give the product distinctive physical and nutritional characteristics because of such ingredients and different from the customary white bread. The baking formula contains neither butter, nuts nor butternuts. The name is considered inappropriate and misleading.

Creamo Brand.—The name "Creamo" implies the presence of cream in substantial quantity in the baking formula and sufficient to give the bread qualities and nutritional values not possessed by the usual white bread; cream is not an ingredient and skim milk is the only milk product constituent. The name is inappropriate and misleading.

The bakeries were advised of the Committee's recommendations but they are not willing to change the brand names. These breads will therefore not be listed among the Committee's accepted foods.

NOT ACCEPTABLE

PATCH'S SUGAR OF MILK (LACTOSE)

The E. L. Patch Company, Boston, submitted to the Committee on Foods a canned lactose of high purity called "Patch's Sugar of Milk (Lactose)."

Discussion of Label.—The container label presents explicit infant feeding formulas for infants of from 1 to 9 months. The promulgation of feeding formulas in lay advertising is considered to be in conflict with the best experience, authoritative judgment and basic principles in infant feeding. The feeding of an infant by routine feeding formulas and instructions distributed by food manufacturers, or according to directions, printed materials, or advice of any person other than the attending physician who can personally observe the condition of the baby may seriously endanger the health of the infant. The feeding of the baby during the first year is of fundamental importance to its health; wrong feeding may be disastrous. Every infant, the breast fed and doubly so the artificially fed, should be under the supervision of a physician experienced and skilled in the care and feeding of infants. The manufacturer when informed of these opinions expressed himself as unwilling to remove the feeding formulas from the container label for merchandising reasons. Patch's Sugar of Milk (Lactose) will therefore not be listed among the Committee's accepted foods.

NOT ACCEPTABLE

BUTTER-NUT BREAD

The Gravem Inglis Baking Company, Inc., Stockton, Calif., submitted to the Committee on Foods a white bread made by the sponge dough method, called "Butter-Nut Bread," composed of flour, water, shortening, dry skimmed milk, yeast, salt and a yeast food containing calcium sulphate, ammonium chloride, sodium chloride and potassium bromate.

Discussion of Name and Advertising.—The name "Butter-Nut Bread" indicates that the bread contains either "butter and nuts" or "butternuts" and in such quantity as to give the product distinctive physical and nutritional characteristics because of such ingredients and different from the customary white bread. The baking formula does not contain butter, nuts or butternuts. The name is considered inappropriate, misinformative and misleading.

The manufacturer, when informed of this opinion, expressed himself as unwilling to change the name in accordance with the Committee's recommendations. This bread will therefore not be listed among the Committee's accepted foods.

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

535 North Dearborn Street - - - Chicago, Ill.

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SATURDAY, MAY 20, 1933

A NEW COMPARISON OF URINE AND PERSPIRATION

In an older period of clinical medicine, the skin and the kidneys were usually considered together as eliminatory organs for the body. Consequently, when difficulties in the excretory functions of the renal structures arose it was not uncommon to spur the skin to act in a vicarious rôle as far as possible. Diaphoretics or sudorifics were administered in many instances of nephritis with the hope that the resulting profuse perspiration might help to remove "waste products" that were ordinarily represented in the urine. Presently it began to be realized that although sweating may help to bring about loss of water, as in the anasarca of nephritis, and that it unquestionably facilitates the removal of heat, the amount of saline and nitrogenous waste thus carried away does not bulk large. For many years, therefore, little attention was paid to the components of sweat other than water. Perspiration was associated primarily, as it doubtless deserves to be, with the heat regulation of the body.

From time to time, however, records of the composition of the sweat, freed from epidermal débris as far as possible, have revealed the presence of familiar components of the blood and urine. Urea, uric acid and lactic acid, for example, were unmistakably recognized, even though the proportions found were small. Dextrose has been detected in cases of diabetes mellitus. Such information suggests that under certain circumstances the skin functions in an eliminatory manner. In fact, it has been stated that in pathologic disorders such as cholera and uremia the sweat glands may excrete urea in such amounts that examination of the skin may disclose crystals of the substance. Recently Mosher [1] made comparative analyses of urine and sweat collected simultaneously from man. When persons whose bodies had been washed thoroughly were placed in sweat chambers maintained at from 40 to 50 C. (104 to 122 F.), 250 cc. (about half a pint) of sweat could easily be obtained in little longer than half an hour. Qualitatively, perspiration was found similar to urine in composition, though the relative amounts of the various components in the two solutions varied considerably. Urine is a much more concentrated solution, containing from three to five times the amount of total solids and from five to nine times the amount of organic matter.

It has been pointed out by Mosher that, although much attention has been directed to the study of the chemical components of human urine and blood with the aim of establishing relationships between the presence of certain components and variations in the percentages of the normal constituents with pathologic disorders, few similar investigations have been conducted with perspiration. This is indeed surprising, he adds, when it is considered that many dermatologists ascribe certain skin diseases to unknown chemical substances or to an abnormal balance of the usual constituents in the sweat. Mosher argues that, before any useful investigations on the influence of perspiration on the etiology of skin disorders can be scientifically instituted, more exact information as to the normal components of sweat is required, particularly the nitrogen fraction. His study is a contribution in this direction.

1. Mosher, H. H.: Simultaneous Study of Constituents of Urine and Perspiration, J. Biol. Chem. **99**: 781 (Feb.) 1933.

THE RELATION OF TRAUMA TO PARALYSIS AGITANS

Since James Parkinson wrote his classic "Essay on the Shaking Palsy" (1817) there has been much discussion as to the cause and pathogenesis of paralysis agitans. Recently the relation of trauma to the development of Parkinson's syndrome has been discussed in French and German literature. Ruhemann [1] found that of thirty-five cases of paralysis agitans seven were traceable to trauma. Oppenheim [2] wrote that injuries to the head, sacrum or an extremity, especially a crushing injury of the nerves, may be the cause of paralysis agitans. Catola [3] comments on the difficulties in evaluating the relation between trauma and disease of the nervous system from the medicolegal point of view but admits that craniocerebral trauma may provoke vascular lesions, necrosis and neuroglial proliferation.

Recently Naville and de Morsier [4] made an extensive report on trauma as a factor in Parkinson's disease. They studied two groups of cases: first, a series of thirty-two patients with a history of cranial trauma; second, a group of forty-two patients subjected to peripheral trauma. They classified the cases of cranial trauma as follows: (1) cases of trauma followed by parkinsonism apparently at least due to contusional encephalitis; (2) cases of aggravation by trauma of existing Parkinson's disease, encephalitis or hereditary

1. Ruhemann, Konrad: Ueber Schüttellähmung nach Unfällen, Berl. klin. Wchnschr. **41**: 332, 1904.
2. Oppenheim, Hermann: Lehrbuch der Nervenkrankheiten, 1923, p. 2069.
3. Catola, Giunio: Sur les rapports pathogéniques entre les traumatismes et certaines maladies organiques du système nerveux central, Encéphale **27**: 292 (April) 1932.
4. Naville, François, and de Morsier, Georges: Traumatismes et syndromes parkinsoniens, Ann. de méd. lég. **12**: 165 (April) 1932.

predisposition; (3) cases of trauma during the development of an infectious encephalitis followed by paralysis agitans; (4) cases of psychic trauma. They note that the disease may appear from several days to three months or more after a cranial trauma, most frequently cerebral concussion. In most instances the tremor and hypertonia appeared in the midst of other symptoms usual after cranial trauma, such as headache, cervical rigidity, fatigue, vertigo or insomnia. There were also mental abnormalities, particularly depressive states with nocturnal agitation. In the series of peripheral injuries studied by Naville and de Morsier, various kinds of trauma were concerned, such as contusions, fractures, dislocations, muscle tears, electrical shock, infected wounds and crushing injuries. Once begun, the syndrome did not differ from the nontraumatic type of paralysis agitans. Usually there was not complete recovery between the time of the trauma and the appearance of first symptoms of paralysis agitans, which most frequently developed several days or weeks after the injury. The tremor and hypertonia always appeared first in the injured limb, and when two regions were hurt simultaneously the tremor appeared in the two areas at the same time. As concerns age, 21 per cent occurred in persons under 40 years, while in the nontraumatic type of paralysis agitans only 10 per cent were under this age. Mental disturbances were absent in patients who developed paralysis agitans after peripheral trauma. The extension of the symptoms occurred on the injured side.

Minovici, Paulian and Stanesco [5] are more conservative in their interpretation of the part of trauma in causing paralysis agitans. They think that it may be a contributory factor but not necessarily a direct cause. They point out that there is as yet no agreement as to the nature and localization of the lesions. The muscular incoordination in this disease has been ascribed to lesions in the extrapyramidal tracts and basal ganglions. However, pathologic changes have been found in other parts of the brain, so that this aspect of the subject is still controversial. They affirm that it is rare to encounter all the elements of Parkinson's disease directly after trauma; further, that the olivopontocerebellar syndrome and inflammation of the striate bodies may be confounded with Parkinson's disease, which has an identity all its own. The importance of emotional shock as a cause of this disease is stressed; patients have been observed in whom the classic symptoms of paralysis agitans occurred soon after a psychic shock. It is acknowledged by these writers that trauma, after all, may favor the development of paralysis agitans by indirect effects of contusion, shock, hemorrhage or meningeal irritation. While the relation of trauma to paralysis agitans still remains an open question, the problem certainly deserves further and close study on account of its practical importance.

5. Minovici, Mina; Paulian, D. D., and Stanesco, I.: Contribution à l'étude du parkinsonisme traumatique, Ann. de méd. lég. **12**: 426 (June) 1932.

COMMERCIAL ASPECTS OF BACTERIOPHAGE THERAPY

The premature commercial exploitation of "bacteriophage" has no doubt induced expenditure of considerable sums for therapeutically inert preparations of bacteriophage-lysed bacterial filtrates. Laboratory scientists suggested the subtle and misleading name "bacteriophage." True, certain bacterial filtrates introduced into a limited volume of fluid culture medium will in many cases cause the suspended bacteria to die. The dead bacteria disintegrate. After disintegration, a hundred times the original lytic titer is demonstrable in the culture medium, together with numerous other autolytic products.

Ignoring possible enzymes, hormones, genes and other growth factors, imagination pictured this lysis as the result of a hypothetic bacteria-digesting virus. A specifically active lytic agent of this character would logically not affect other factors in the animal body. It was argued that it might penetrate to the remotest corner of infected tissues in search of its specific diet. The well known fact that test-tube lysis does not take place in the presence of gelatin, egg white or numerous other colloids was disregarded. The well confirmed evidence that similar inactivations take place in the presence of mucus, fibrin, pus, blood serum, erythrocytes, fixed tissue cells and certain urinary crystalloids was also ignored by commercial interests, in spite of the fact that voluminous data have been published during the last twelve years.[1]

The commercially promoted reading matter also carefully evaded references to the well confirmed evidence that limitation of volume is a necessary factor in test-tube lysis. In other words, "bacteriophage" has no appreciable injurious effects on homologous bacteria until the extrabacterial concentration of bacteriophage is raised to a certain critical level.[2] Publication of this fact might have suggested to prospective purchasers that the necessary critical concentration could rarely be reached or maintained in any tissue supplied with a capillary circulation, or in any urinary or cerebrospinal space with its constant lavage with new fluid.

Under the numerous test-tube conditions in which lysis does not occur, "mutation" or "adaptations" of the exposed bacteria take place, with the production of bacteriophage-resistant strains. These strains cannot be lysed even under most favorable test-tube conditions. The commercial literature failed to announce that 90 per cent of all typhoid bacilli freshly isolated from typhoid stool or typhoid blood are bacteriophage-insusceptible variants. One also seeks in vain for any reference to bacteriophage anaphylaxis or to antitherapeutic "negative phases," the well known dangers and contraindicants with certain other protein mixtures or bacterial vaccines.

1. A historical outline is presented by Colvin, M. G.: J. Infect. Dis. **51**: 527 (Nov.-Dec.) 1932.
2. Limitations of Bacteriophage Therapy, editorial J. A. M. A. **96**: 693 (Feb. 28) 1931; **98**: 1190 (April 2) 1932.

Competent investigators who have made impartial and conscientious efforts to determine the clinical value, limitations and dangers of the Twort transmissible lysin marvel at the policy of suppression of scientific fact in the promotion of bacteriophage preparations. If data suggesting limitations and dangers had been suitably set forth in advertising prospectuses, clinical trials might have been limited to certain well defined pathologic conditions, leading eventually to official endorsement, whereas the Council on Pharmacy and Chemistry has not yet accepted such preparations. Moreover, there is a rapidly growing resentment and distrust of the whole bacteriophage promotion, which certainly will delay final clinical evaluation.

Premature exploitation of the Twort lysin is by no means an isolated example of this short-sighted policy. The opsonic index was successfully sold to the medical profession, long before its technical errors were assayed, before any critical test was made of the assumed quantitative parallelism between specific opsonic index and specific immunity. Perhaps a million doses of leukocytic extract were injected before any quantitative tests were attempted to prove that such injection causes anything more than a borderline reaction of negligible therapeutic value. "Anti-cold vaccines" were widely sold commercially and even yet the etiologic factor of common colds is unknown and the evidence of usefulness doubtful. The Council on Pharmacy and Chemistry is a safe guide to follow at a time when all sorts of untried therapeutic plausibilities are being launched on the medical profession.

Current Comment

DANGER IN INTERNAL ADMINISTRATION OF SILVER PREPARATIONS

A timely warning against uncontrolled or indiscriminate use of silver preparations in internal medication has just been uttered by Knack [1] of Hamburg. While the toxic effects of chronic poisoning with silver are not in themselves alarming, the discoloration of the skin, especially that of the face, is unsightly and may seriously interfere with the pursuit of occupation. In the past, silver nitrate was extensively utilized in the treatment of the diseases of the nervous system and of the gastro-intestinal tract. The occasional occurrence of argyrosis as well as a growing conviction that the therapeutic effect of silver nitrate was inferior to other remedial substances lessened its use greatly. Then, with the development of new combinations of silver came a revival of interest in silver therapy. At the same time, manufacturers exploited such products in advertising campaigns. The silver content of some of these preparations is not always to be known from their proprietary names. The indiscriminate attitude toward silver preparations may be due to the fact that the younger generation of physicians is not familiar with argyrosis. Knack describes two recently observed cases. One patient had taken the not inconsiderable dose of 9 Gm. of silver nitrate, which was prescribed for a gastro-intestinal disturbance during the years 1920-1922. The symptoms appeared characteristically late, after a lapse of three years. The diagnosis was made from the typical blackish gray discoloration of the skin and was further confirmed in histologic sections of the skin by the new spectro-analytic method of Walther and Werner Gerlach of Basel. A special predisposition undoubtedly plays a part and occasionally a small dose is capable of producing argyrosis, as is evident from the case reported by Jacksch, in which the patient received only 1.2 Gm. of silver nitrate.

1. Knack, A. V.: Deutsche med. Wchnschr. **58**: 1672 (Oct. 21) 1932.

GLYCERIN AS FOOD

If it is assumed that the average daily intake of fat in the present-day diet approximates 100 Gm., this foodstuff will liberate about one-tenth its weight, or 10 Gm., of glycerin (chemically designated glycerol) in the alimentary tract as a consequence of the lipolytic digestive changes. Glycerin also finds its way into the gastro-enteric canal from other sources; it is mixed with certain commercially processed foods, is present in some pharmaceutic preparations, and is sometimes fed as such, offering through its sweetness a substitute for sugar. It seems almost gratuitous to question the physiologic wholesomeness of a normal digestion product of one of the familiar nutrients; yet this seems to have been done from time to time in the case of glycerin. There are, indeed, published records of untoward effects from glycerin, but in these it is not always clear whether the introduction has been by way of the alimentary tract or whether perchance the product has been administered parenterally. It would not be surprising if subcutaneous or intravenous use of glycerin should lead to untoward consequences. As a recent writer has remarked, numerous examples could be cited of innocuous and even indispensable materials occurring in the gastro-intestinal tract which kill if injected subcutaneously, intraperitoneally or intravenously. Examination of medical writings with this in mind reveals that it is essentially in instances of parenteral administration of glycerin that injurious consequences have been reported. An extensive reinvestigation [1] of the subject, involving the feeding of varying amounts of glycerin to different species, including man, has recently been completed at the department of physiology of the University of Chicago. This shows that glycerin as such can safely be incorporated into the regimen in far larger proportions than that in which it is liberated from even large quantities of dietary fat. It readily replaces carbohydrates, having about the same caloric value. In the case of man, glycerin was fed over a period of fifty days in amounts as large as 110 Gm. daily without any demonstrable

1. Johnson, V. E.; Carlson, A. J., and Johnson, Adelaide: Studies on the Physiological Action of Glycerol on the Animal Organism, Am. J. Physiol. **103**: 517 (March) 1933.

undesirable effects. It did not affect the red or white cell counts or the hemoglobin content of the blood. The temperature was unaffected, and neither the basal metabolism nor the uric acid output was significantly changed. These items are mentioned because they have been the subject of dispute. There have been reports in the past of phenomena—sleeplessness, talkativeness and excitement—resembling manifestations of alcoholic inebriation. The Chicago physiologists, referring to glycerin feeding, somewhat whimsically remark that thus far no signs of addiction have displayed themselves in their subjects.

Medical Economics

PRIVATE GROUP PRACTICE

[This series of investigations by the Bureau of Medical Economics will be published in THE JOURNAL in three parts. The second part will appear next week.]

The original source of information for this study was a questionnaire sent to 1,949 secretaries of county medical societies asking for certain information as to the number of groups within their jurisdiction and the nature of the practice in which the groups are engaged. Two hundred and sixty-six secretaries reported the existence of one or more groups within the jurisdiction of their societies. The total number of groups so reported was a little over 500; the indefiniteness was due to the fact that some reports gave "8 or 10" and similar estimates. Later investigation showed that many of these could not be properly classified as examples of group practice, a difficulty that is partially due to the fact that it is almost impossible to formulate any clear or standard definition of a medical group. Moreover, most of those listed were calling themselves "clinics" and were being so considered in their localities.

The replies to this questionnaire give the most complete view of the attitude of members of the medical profession toward various questions involved in group practice and its results that has yet been obtained. That this view is as fair and impartial as could well be obtained is shown by the fact that the proportion of secretaries of county medical societies who stated that they were themselves members of groups is at least equal to the proportion of members of groups in these societies to nonmembers.

One of the questions on the schedule, the answers to which are of significance in determining the probable development and extent of group practice in the near future, was, "Is the number of groups increasing?" Two hundred thirty-five secretaries replied to this question. Of these, 192 said "No" and 42 "Yes." The majority of "No's" would seem to be sufficiently large to indicate that in those localities where group practice already exists it shows slight tendency to increase its scope.

Another point on which there has been much discussion is whether group practice reduces the cost of medical care to the patients. This information was sought through the question, "Has group practice, as conducted in your community, contributed a practical method of providing medical service at reduced costs to the patient?" Of 230 secretaries who replied to this question, 170 said "No" and 60 "Yes." This would seem to justify the conclusion that of those secretaries who have had an opportunity to judge of the working of group practice the overwhelming majority are of the opinion that it has not reduced costs to the patient.

The next question gives an opportunity to explain these simple negative and affirmative replies. It asks: "In what way has group practice reduced the costs of medical service to the patient?" It may be well to call attention to the fact that this is somewhat of a leading question, as it assumes that group practice has "reduced the costs of medical care to the patient." There were 159 replies, of which 69 simply emphasized their previous negatives by saying "none," "not at all," "in no way," etc., while 12 said that the costs have been increased to the patient by group practice, and 8 gave noncommittal answers, such as "do not know," "opinions differ," etc. Some of the explanations given of these answers are helpful in understanding the attitude of those who replied.

"Reduced overhead—increases individual practice by referring to members of group."
"Did not reduce but allowed better service."
"Costs patient more money through unnecessary roentgenologic and laboratory work."
"Doubt if costs have been reduced. Group practice has been responsible for a higher type of service and keeps the medical man 'up on his toes' more."
"Increased unnecessary expense."
"Owing to excessive amount of unnecessary laboratory service, general consensus is that there has been no saving for the patient."
"Excessive overhead holds the costs high."
"Has not reduced. More charge to the patient. Examination in clinics cost $25 to $50, and in doctor's office $10."
"Not in one case, the group not being highly specialized."
"In no way. It has reduced our individual expense."

There are fifty-three replies that may be interpreted as indicating an opinion that in some way group practice has reduced the cost of service to the patient, although a few of these answered the previous question in the negative. Thirty-eight listed reduced or no extra charges and greater facility for consultations within the group as a reason for believing that charges have been reduced. The reports of four groups located in small cities cited the saving of traveling expenses by patients who would otherwise go to larger centers of population. Nine stated that a centralized laboratory saves on cost of diagnostic services. Four mentioned possible savings due to a reduction of overhead and an increased number of patients who can be cared for by the same staff.

The affirmative replies may be fairly summed up as making a slight claim for lower charges for equivalent care but insisting that superior facilities and extra consultation service can be furnished without extra charge.

The next question has some indirect bearing on this problem of greater economy of group practice. It reads: "State definitely the objects for which groups are formed in your community (reduction of individual overhead expense, joint ownership of costly equipment, easier access to special consultants or for other reasons)." One hundred and twenty-eight secretaries made some sort of comment on this question. In the analysis that follows it must be remembered that many gave several objects and are therefore counted more than once.

Of these, eighty-eight say that the objects listed in the question were those sought in forming the group. Many of these made additional comment, and others who replied to this question gave additional reasons. Eighteen emphasized the possibility of financial gain for the members, making such statements as:

"Probably for increasing income of owners."
"Making money for owner; others are on salary basis."
"Personal gain" (4 replies in substance).
"To obtain greater momentum for more business."
"To make more money—that's all. To appear big, talk big, charge big."

Of the total replies there were forty-four that mentioned improved relations and conditions of practice helpful to the physicians who were members. Of these, nine stress the opportunity to go away for vacations or graduate study without disorganization of practice and loss of patients. There are eleven replies that mention certain personal and professional conditions which attracted physicians to groups.

"Opportunity to develop along special line."
"Personal protection or special benefits accruing therefrom."
"Better chance for consultation and improvement."
"To hold together—and aloof from others—a certain group of friends."
"Practice specialty and keep in touch with other fields."
"More convenient to practice scientific medicine."
"Congenial cooperation of social and professional relationship."
"Personal satisfaction to physician of being able to limit work to one or two branches."
"A place to practice medicine, surgery and obstetrics as it should be done and as cheaply as possible."
"Physician is able to emphasize his own specialty and can have group of trusted friends and specialists around him."

A few additional replies do not quite fall in the foregoing classification because they give greater stress to personal and financial reasons, some of which are evidently due to local

situations. Three say the group was formed to reach a wider radius of patronage and to meet competition with metropolitan centers. One said: "To increase individual practice by referring to members of group." Another gave as an object: "Lessened initial expense to new-comer in group." Another gave: "Reduce dead-beats—overcome local competitive friction." A fourth said that it was "easier to do industrial work."

Thirty-seven replies emphasized benefits to patients as among the objects which led to the formation of groups. Of these, fifteen said "better service," and seven others added such qualifications as "quicker," "more complete," and "more efficient." Others went into such details as:

"Necessity of medical accomplishment for which no single individual is equipped mentally or physically."
"To afford patient medical service by one familiar with case in absence of member without additional cost to patient."
"Provide somewhat isolated community with well balanced organization to care for any case too difficult for general practitioner."
"Elimination of travel to city for consultation. Fees are less than city fees for special work."
"To render twenty-four hour service for industrial accidents."

It seems probable that these replies are sufficiently comprehensive, inclusive of members and nonmembers and distributed geographically as to include practically every reason that has led to the establishment of groups and to give as accurate a picture as is reasonably possible of the motives for the formation of groups.

The next four questions were designed to bring out the attitude of the local profession toward group practice. Again the impartiality of these replies rests on the fact that a considerable proportion of the secretaries answering were members of groups and that both sides—if there were two sides—were therefore represented. This also, to some extent, accounts for the sharply antagonistic opinions.

The first of these questions asked for a direct answer of "Yes" or "No" to the question, "Is this type of medical practice satisfactory to the majority of physicians in your community?" Of 148 who answered only with a direct affirmative or negative, 87 said "Yes" and 61 "No." The comments of those not answering directly added little to the information sought in the following questions: "If satisfactory, in what respect does your society favor group practice? If unsatisfactory, state the undesirable features of group practice."

To the first question, which assumes the satisfaction of the county medical societies with group practice, forty-three secretaries made neutral, noncommittal replies, such as "has taken no action," "nothing said," "no expression," and "not interested."

There are twenty-three replies that indicate division or active opposition within the medical society. Samples of these comments are:

"Not satisfactory but tolerated because it interferes little with individuals."
"Society does not favor."
"Impossible to tell. O. K. with those doing group practice."
"Sentiment is divided."
"Objected to by some."
"They do not particularly favor it, but they just do not oppose it."
"Is favored in negative sense—tolerated."
"Many of our men will not even share a building with another practitioner."
"Society favors group practice as long as those in the group stay confined to their specialty and do not encroach on private practice of general practitioner."
"No complaint of serious nature."
"A number are satisfied—others not."
"The society does not exactly favor group practice, nor is it against it."
"We are divided on the subject. I believe the majority favor individual practice."
"Some opposition on competition of groups."
"Satisfactory to the one group."
"Clinic groups are not particularly criticized, but tend to be isolated from general run of practitioners."

There are twenty-three replies that may be fairly interpreted as indicating that the secretary considered the opinion of the county medical society to be favorable to group practice. Some of the reasons given for this attitude are:

"Develops better type of men in profession."
"Society respects group practice because more complete diagnosis due to better laboratory facilities and cooperation within group."
"Better feeling among doctors, with greater efficiency for individual doctors."
"Cooperates with all other members of the society."
"Better medicine practiced."
"Allows community to have hospital."
"Better facilities for diagnosis and treatment."
"Staffs of both groups are all members of the society and their association has the good will and approval of other members of the society."
"There is a marked tendency toward group formation, and it is favored by the society."
"Has raised standard of practice in community."
"It makes for stronger, better equipped individuals. Makes for stronger medical center. Draws patients from larger area."

It will be seen that even when asked to state reasons why the medical society favored group practice, more than two thirds of those replying gave noncommittal or critical comments and that more than half of the secretaries failed even to express a vote on the direct question of whether group practice is satisfactory to a majority of the physicians in the community where it exists, which would seem to justify the conclusion that the general attitude of those members of the profession who have come into direct contact with such practice is hostile or sharply critical. The twenty-three positively favorable replies are fewer than the number of secretaries who are members of groups. This does not imply that all such favorable replies are from group members, for this is not true, but rather that there is a recognition by both members and nonmembers of this general critical or hostile attitude of members of the profession to group practice.

This conclusion is strengthed by the replies to the request, "If unsatisfactory, state the undesirable features of group practice." Sixty-five secretaries listed one or more such features. These fall largely into certain definite classes. The largest number criticized the lack of cooperation of groups with other practitioners. The nature of these may be judged from the following examples:

"Eliminates privileges of consultation between members and nonmembers."
"Too much close communion."
"Stirs up dissension."
"Try to keep all work in their own hands."
"Isolation of groups."
"Patients referred to clinic do not return to physician."
"Unsatisfactory to physicians outside group—competition is strong and control of patients more difficult."
"There is unavoidable jealousy of outside members."
"Limits choice of consultants."
"Creates factionalism."
"The establishment of cliques, creating prejudice and jealousy."
"We feel that they are not always ethical as far as their relations with outside physicians is concerned."
"Hinders full cooperation and general good will among physicians."
"It is at times unfair because any patient can get confirmation of diagnosis, right or wrong. Outside doctor is, therefore, always wrong."

There are a number of charges of unethical practices, such as:

"Unethical competition."
"Group advertising—solicitation by business manager."
"High pressure salesmanship."
"Aggressiveness in procuring patients—indirect methods of advertising."
"Because of cost of operation has to go after business in many ways unsatisfactory to profession."
"Has tendency to monopolize and commercialize the practice."
"Tendency to publicity in the press."
"Too much aggression and free advertising."
"They have inexperienced men and tell public they have specialists. They set themselves up as better physicians and surgeons. They advertise directly and indirectly by virtue of these groups."
"Tendency of this group to disregard commonly accepted ethical conduct and to cater to irregulars."

Other criticisms allege excessive claims of special ability of group members and the designation as specialists of those who lack proper qualifications for the title.

"Untrained practitioners place themselves before public as specialists."
"Often inexperienced physicians."
"Does away with individual diagnosis."
"Each group cannot have best specialists, yet they keep patient."
"Tendency to overrate individual attainments of group."
"Men are unqualified for respective specialties. Inadequate diagnostic facilities, as laboratory."

A few cite dissensions within the group as an undesirable feature:

"Internal trouble is all I hear of."
"Internal strife."
"Group splits in poor times."
"Jealousy among members of group."

A different type of criticism is directed at the relation of the group to the patients. Seven replies charge that the cost to

patients is increased, and four that excessive and unnecessary treatments are given. Additional comments along this line follow:

"Does not offer any benefits in service or equipment."
"No benefit from family physician's records and knowledge of individual."
"No free choice of physician."
"Tends to remove close personal contact with patient."
"Tending to stress surgery, the easiest profit, to base diagnosis on laboratory findings rather than careful physical examination and to make 80 per cent of the common run of patients share the expense of the 20 per cent actually needing specialized care."

The eleventh question was designed to obtain the opinion of the secretaries as to the attitude of the public toward, and any special advantages of, group practice in rendering service to patients. The question reads:

"Has group practice proved to be more satisfactory to the patients who have used it than individual, general or special practice?" This was to be answered by "Yes" or "No," and was followed by the question, "In what respect is group practice of greater benefit to the patient?"

There were 147 replies to this question. Of these, fifty-three said "Yes," and the comments of eleven others indicated an affirmative answer—a total of sixty-four. There were forty-one who said "No" and nine others whose comments indicated that they did not consider group practice more satisfactory to the patient than individual practice—a total of fifty. Thirty-three who replied were unable to express a definite opinion, giving such answers as "Do not know," "Cannot tell" and "Opinions differ."

The answers to the second half of the question, "In what respect is group practice of greater benefit to the patient?" in some ways duplicated replies to some of the previous questions but from a somewhat different angle. Fourteen said "better" or "quicker" or "more thorough service" at "reduced" or "no additional" cost. Ten stressed the opportunity and convenience of consultation.

Other replies were:

"Greater facility in handling specialties."
"Patient will be treated by specialist much earlier."
"Specialties are more successful and charges are not so great."
"The patient has the benefit of several opinions in diagnosis and is not so apt to be exploited in surgical procedure."
"Patient benefits from more accurate diagnosis and general access to varied and costly equipment—men are better up on their specialties since they limit the field of their activities and have enough work to justify it."
"Patients better able to meet bills."
"The individual doctor has more equipment with which to work, and time is saved for him in consultation and laboratory work."
"For the difficult case group practice is the best because all special examinations can be conducted within the group."
"He can have everything necessary done at one place and with the least loss of time. Usually total cost is less."
"It gives the patient the benefit of the combined physical and mental resources of the clinic at a reduced cost."

The final question reverses the attitude of the previous one and asks, "If you believe group practice does not offer any special benefits to the patients state your reason therefor."

Fifty-one secretaries expressed an opinion on this question. Many of these replies were largely a repetition and emphasis of opinions given in reply to previous questions. Twenty insisted that cost of treatment was not reduced, that it was generally increased and that in many cases this was due to excessive practice. Some of these comments follow:

"Does not reduce costs and I don't believe they do any better work."
"Increased costs due to favoring the cases."
"Too expensive as a rule and too much red tape. Why run every patient through a routine when not necessary?"
"Probably on the whole a better physical examination than by any other method, but usually includes much unnecessary routine examination and tests which run up costs to patient."
"Ordinary type of office patient who comes for minor ailments may be inconvenienced by the delay that seems to be necessary in handling patients in a group. This type of patient could probably be cared for in a more rapid and just as satisfactory manner by the individual practitioner."
"Based on statements of patients themselves, the chief objection is the cost. There is always the tendency to add successive charges and costs which are not added when the individual is used."
"The expense to the patient would probably be increased because of increased overhead."
"Some patients complain of cost and time taken over trivial things and the general character of the service rendered.
"Instead of lessening the cost per patient it is my opinion that it tends to increase it because of the possibility of greater financial returns by consulting with the many different members of the group."
"It increases the medical cost two or three times, usually with no better results. This has been the experience with this sort of practice in our community."
"Costs are greater—more unnecessary work and laboratory examination."
"The individual physician will put in time and effort on the patient and ask consultation if desirable, but does not call in two or three others on all cases and make unnecessary x-ray and other examinations for which the patient has to pay in the group."
"Has not reduced general costs to patients. Referring of patients for consultations within one or the other group as much as possible is not always of advantage to the patient."
"The group fees in this city are no less than those of individuals and consultants combined."
"Increases cost of medicine. Just another form of unfair competition."

The remaining criticisms are so diverse in their character as to be difficult of classification. Taken individually, they give so complete a picture of the attitude of members of the profession on this important point as to justify the quotations given:

"Groups so organized are for the benefit of the doctors and not of the public."
"Members do not stick to specialty. All doctors in general practice."
"Professional interest dissipated somewhat on account of division of responsibility."
"The groups are banded together for their own benefit and try to keep all work in their own hands whether it is to the benefit of the patient or not."
"Examinations by a number of physicians is rarely cheaper in a group than by individuals. The relation of the family doctor to the patient must not be lost."
"Several such groups broken up after year or two. Economic distress was cause of formation."
"Often some jealousy among the groups as to ownership of the patient."
"Feel that patients can get as adequate attention from their doctor as from groups."
"It all depends on group which is no better than its weakest sister. Nepotism enters into most groups. Often merely a feeder to head 'surgeon.'"
"Each group cannot have best specialists, so, as they keep the patient, he cannot receive the best attention. Most groups have one or two outstanding men who depend on youngsters for diagnosis—not giving patient what he is paying for. Benefit of complete examination for some is offset by unnecessary amount of something done for others."
"Group practice is made up of ordinary physicians who have made no special preparation for their specialty. Many unnecessarily referred. Much time lost to patients and many physiologically ruined."
"If the individual physician would give the necessary time and care to the patient, the benefits to the patient would equal those of group practice. The individual physician should be more valuable, as he should have a greater interest in the patient."
"I am convinced that group practice would offer special benefits to the patients locally provided the proper group were assembled. The ..... group undoubtedly offer more distinct benefits. The ..... clinic is not balanced, and the ..... clinic is too expensive for the value of the work given."
"Personally I see no benefit from group practice, especially in country districts. It may be an advantage in large centers of population, when, as usual, it is in connection with large general hospitals."

A clearly defined feature of the replies is that they are contradictory on almost every point. A possible explanation is that they do not refer to the same thing. It has been customary to discuss group practice as if it were a standardized uniform type. This may be due in part to the tendency to focus attention on the material equipment, forms of organization and number of members without considering the variable human element and the personal relations within the group and with the patients and the profession which, after all, are the basic facts in all medical practice.

When one considers this one begins to see that medical groups vary as widely in this most important feature as the individuals who compose them and the people with whom they come in contact. Then it is possible to understand why one group is praised and another condemned.

Any form of medical practice exists for the purpose of giving a personal medical service to patients, and the vital questions concerning it are not its internal business arrangements, the methods of distributing income among its members or even the size of its equipment or the amount of capital invested. All these are secondary to the knowledge, skill, tact, integrity and other "personal capital" possessed by the individual physicians, and all forms of medical practice must be judged by this standard rather than by standards borrowed from the fields of industry and commerce.

Applying these standards as far as possible to the facts just presented, it is possible to draw some conclusions. It would seem to be quite clear that the individual physicians controlling the groups have not generally succeeded in reducing the costs of medical care. They have increased it in some cases, reduced it in others and given better service for the same money some-

times and unnecessary service at other times, just as individual practitioners have done. There is nothing inherent in group practice that requires any of these policies.

When a similar standard is applied to the question of the relative attractiveness to the individual physician of group versus individual practice, one again obtains contradictory answers. If the objective is financial success, achievement depends on the individuals and the methods used. The same conclusion follows concerning those groups motivated by scientific enthusiasm, desire for more thorough service or any of the other objectives listed.

Common possession of superior equipment or facilities for consultation does not insure better diagnosis or service unless these facilities are in the hands of persons with the purpose and ability to use them for the benefit of the patient. Without this purpose and ability, elaborate equipment and multiplicity of alleged specialists result only in unnecessary duplication of work and expense to the patient.

Another set of judgments seems to depend more on whether the association of several individuals in itself creates new conditions. Sociologists have long recognized that the group tends to exhibit in an exaggerated form many of the characteristics of the individuals who compose it. A sort of "group patriotism" is developed which, unless vigilantly restricted, creates mutual hostility between the group and all outsiders. That some groups have failed to control this tendency is plainly shown by the replies indicating friction within local medical associations.

Ethical problems are always concerned with relations between individuals or groups of individuals. New ethical problems develop with each new form of association. It is, therefore, inevitable that medical groups will create such problems. This does not imply that the principles of medical ethics are changed, but only that new relations create new strains and stresses within the ethical structure.

The larger the "overhead" and the resulting "fixed charges" in any business, the greater is the pressure for expansion of the market. The pressure on a medical group with expensive equipment to seek new business in unethical ways is therefore inherently greater than on the individual practitioner. The presence of a "business manager," less sensitive to medical traditions, and compelled to justify his existence by financial standards introduces another disturbing element. The very numerical bulk of the group and its possibly conspicuous equipment tempt it to adopt forms of publicity not used in individual practice.

It should be clear that there is no inherent good or evil in business managers, equipment or the grouping of numerous physicians. These features are but instruments, and the ethical questions involved concern their use by the individuals constituting the group. Ethical questions, like medical service, are personal and individual. There are no different, or additional, standards of conduct for individuals in a group from those for individuals working alone, although many lay discussions seem to assume the contrary. Advertising, solicitation, excessive practice, restriction of choice of physician are no different and no less reprehensible when practiced through a third person by a number of physicians in a group than by an individual practitioner.

(To be continued)

Rest and Pain.—About the middle of last century, a very philosophically minded surgeon, James Hilton, wrote a remarkable book, now too much neglected, entitled "Rest and Pain." He pointed out that rest was nature's method of cure for many ailments, and that pain was a method of securing rest. One might almost modify a well known phrase and say "While there is pain there is hope." Not infrequently, when the vital forces are giving up a hopeless conflict, pain ceases. Unfortunately, although pain is nature's danger signal and imperative demand for rest, it is not perfectly adapted to its end. Here let me put forward what I believe to be an important law of life: the response to an abnormal stimulus is never so perfectly adapted as the response to a normal one; if it were, in the course of evolution the abnormal response would replace the normal one.—Brown, W. L.: Rheumatism and Arthritis as a Public Health Problem, *J. State Med.* **61**:249 (May) 1933.

Association News

THE MILWAUKEE SESSION

Railroad Rates

The Southeastern Passenger Association, in addition to the other passenger associations previously mentioned, has announced that tickets will be sold from its territory to the annual session of the American Medical Association at one and one-third fares in accordance with the regulations set down under the heading "Transportation" in the May 13 issue of THE JOURNAL.

The round trip rate of one and one-half fares previously announced by the New England Passenger Association has been reduced to a fare and one-third for the round trip.

Section Dinner

The Section on Gastro-Enterology and Proctology has arranged to have its dinner at the Hotel Schroeder on Wednesday evening, June 14, at 7 o'clock. Dr. H. L. Bockus, 250 South Eighteenth Street, Philadelphia, is the secretary of the Section on Gastro-Enterology and Proctology.

Section Reunion Meeting and Smoker

The officers of the Section on Ophthalmology have arranged for an informal reunion meeting and smoker, Wednesday evening, June 14, at about 7:30, in the Skyroom of the Plankinton Hotel. The secretary of this Section is Dr. Parker Heath, 1551 Woodward Avenue, Detroit.

ANNUAL CONGRESS ON MEDICAL EDUCATION AND LICENSURE

Twenty-Ninth Annual Meeting, held in Chicago, Feb. 13 and 14, 1933

(Concluded from page 1437)

DR. T. J. CROWE, Dallas, Texas, in the Chair

THE FEDERATION OF STATE MEDICAL BOARDS OF THE UNITED STATES

FEBRUARY 14—AFTERNOON

Regulation of the Practice of Pharmacy

H. C. CHRISTENSEN, PH.G., Chicago: Pharmacy has much the same trouble as medicine and the rest of the professions; that is, an oversupply. We discuss regulation along the same lines that you have today, and we find the same obstacles. We have made progress in pharmacy. Some physicians who see the ordinary drug store from the outside probably are not impressed with its professional appearance. After all, the educational requirements of pharmacy have been advanced until it is nearly on a par with the other professions. Thirty-eight states are now on a college graduation requirement, which means a four year course in addition to high school. We have not yet gone onto what might be called an equivalent of your premedical requirements.

In pharmacy the work of reciprocal interchange was delegated to the individual boards from 1904 to 1914, without supervision by a national office, but this plan was not satisfactory. Therefore, in 1914, a central office was established in Chicago, which acts as a clearing house for reciprocal licensure. Each applicant submits a statement of his qualifications to that office on proper forms. If he is found to be eligible in the particular state in which he desires registration, an official application blank is issued to him, for which there is a fee. No member board recognizes a reciprocal application unless it is made on this official form. Thus we have had a uniform application blank for many years.

We have, I believe, greater variation in our standards for entrance to board examination than you have in medicine. Approximately forty states require college graduation at present, but in some of these exemptions still remain open. From the standpoint of the boards, the central office has increased the efficiency in handling these applications. The boards have the final decision as to acceptance or rejection of the application, but the percentage of rejections is very small.

Our association's income from dues is $25 for each active member board, providing a budget slightly in excess of $1,200

per annum at present, which would not support a central office. The fairest method of meeting the association's expense, it seemed to us, was by a fee, payable by the applicant at the time of issuing the official application. Thus the actual cost of maintaining reciprocity devolves chiefly on those who receive the benefits of a reciprocal license. In the pharmacy examinations we adopted a uniform grade standard years ago—a general average of 75 per cent with not less than 60 per cent in any one subject. Some of the boards that were slow in affiliating with the association did not adopt this standard until some years later, with the result that some of their earlier registrants who were licensed with a minimum grade of 50 or 55 per cent or perhaps a general average of 70 per cent are now ineligible in some states that are holding strictly to the uniform standard. The question of reciprocity resolves itself into trusting an examiner in another state, having faith in his integrity; he cannot translate his rating into absolute or arbitrary numbers—it is either a case of deeming the applicant worthy of a license and passing him, or else deeming him incompetent and denying him a license. Therefore, I am hoping that we shall soon be able to accept your liberal attitude on this question of grades by completely eliminating consideration of them in reciprocal registration.

In our system of reciprocity, any state board that affiliates with the National Association of Boards of Pharmacy agrees to give examinations at least equal to the minimum standard examination recommended by the association. The requirements specify the subjects of examination, the number of questions in each subject, and the number of subdivisions. We have forty-nine member boards interchanging licenses and recognizing one another's examinations. In this respect, pharmacy has accomplished a national system of reciprocity. The pioneer work was done from 1904 to 1914. After about ten years of reading examination questions at conventions and arguing about them, finally when our examination committee prepared an outline for the minimum standard examination, we were ready to accept it. We had to guard against infringement of states' rights. But we were not satisfied with the old harsh rule of "equivalent state standards," which worked so many injustices. We finally worked out what we call our "basic rule for reciprocity," which places the basis for reciprocity on the personal qualifications of the applicant at the time of examination, instead of making the requirements of the state law the basis: namely, that the applicant is eligible reciprocally in those states in which he was eligible to sit in examination on the date of his original registration. That word *original* is important—it exempts him from any increase in requirements after his examination date. Pharmacy was the first profession to work out this personal qualification basis for reciprocity. In some states it was difficult to get the legal authorities to see the justice of accepting such an interpretation of the law, and sometimes we had to amend the reciprocal clause to get the interpretation accepted.

The National Association of Boards of Pharmacy was organized for the purpose of working out a system of national reciprocity. We feel that we have accomplished a great deal. By agreeing on a national goal or standard in the form of a recommendation at our annual meetings, we have had something definite to suggest when the individual states were considering changes in their pharmacy laws. A model law was compiled; uniformity, however, is desired only in essentials. No attempt is made to enact this draft, word for word.

The most important problem confronting the public health professions today is the growing tendency toward consolidating these boards into departments of licensing, registration, and so on, with the responsibility and power placed in the hands of a political director. Such consolidation has already been accomplished in five states (including Illinois) and I am informed that ten states are at present threatened with attempts to enact such legislation. The plea is, of course, saving money for the taxpayers. The politicians who sponsor such measures overlook the fact that the professional boards are self supporting. Taxpayers have never been called on for funds to support these boards, all the expense being borne by the members of the profession. Therefore the motive back of such measures is undoubtedly the realization that dwindling taxes will soon necessitate abolishment of many bureaus and jobs; thus new offices must be created, this time at the expense of the professions and the public welfare. A study of the existing consolidation departments shows that they are relatively inefficient and expensive. The economy argument is a myth, once the department is established. In one state, such a department was started on a budget of $100,000 a year (a very slight saving from the cost of operating individual boards). Twelve years later, this budget had been increased to $300,000. A perusal of the reports of such departments finds little, if any, mention of law enforcement. Most of the budget is spent in licensing activities, whereas the purpose in issuing licenses is merely to have a record to aid in law enforcement. The professional boards can do little, once such a department has been established. Their powers are limited to conducting examinations and grading papers.

When the original state laws governing the practice of medicine, dentistry, pharmacy and other public health professions were enacted, great care was taken to keep the professions out of politics. That safeguard is needed today more than ever. It is our duty now to fight for the right to continue to police our own professions without political interference. The public welfare demands it. Medicine alone cannot win the fight; nor can pharmacy or dentistry or any other of the professions. If, however, when such measures are proposed in a given state the professions within that state will present a united front and inform not only the legislature but also the public as to the true facts in the case, we shall be successful in retaining our right to continue free from political interference.

Interstate Endorsement of Medical Licensure

DR. J. N. BAKER, Montgomery, Ala.: One of the most important obligations of licensure boards at present is that of investigating and rating the professional and moral integrity of candidates. More thought should be given to tests of character in the applicants who come before it. Similar tests should be encouraged for those who apply for admission to schools of medicine. These tests should include evidence of the applicant's attitude of mind toward work and his due regard for obligations and duties which have been assumed by him or imposed on him. It is believed that many brilliant minds, as they progress through the elementary schools, acquire habits of indolence because their tasks, having been designed for the average child, are too easy to command their interest. Not only habits of indolence but a disrespect for educational ideals and school policies are sometimes engendered in the upper 25 per cent of the pupils because of this maladjustment. Medical schools are making a definite bid for entrance students from this group of the higher intelligence levels. All along the line, insufficient emphasis is being placed on the fact that no man can hope to adorn the practice of medicine or succeed in fulfilling his obligations to society if he fails to value and glorify his work as well as to be dignified by it. In the interest of humanity, our boards of medical examination and licensure should not only undertake to test the work habits of candidates who come before them but ascend a little farther upstream in the educational field and endeavor to promote in our grade schools the safeguarding of brilliant children from the disintegration of character that results from a lack of sufficient exercise for the full quota of one's mental faculties.

Reciprocity is an existing mutual agreement between the states in question. The merits of each candidate are given individual consideration. In Alabama, few reciprocity certificates were granted prior to 1917. I use the term advisedly here because, under the present arrangement, the attorney general of this state has ruled that there must exist a written reciprocal agreement with the state from which a candidate applies before a pro forma certificate can be issued. However, in Alabama, trading and politics, at least up to now, have played no part in this method of licensure. Granted the existence of reciprocity relations, physicians are licensed on the basis of their qualifications. The experience of the federation suggests the early adoption of practical, uniform medical practice acts, the education of the public to an appreciation of scientific medicine, the utilization of active cooperation from the reputable medical profession, and the removal of sectional barriers against reciprocal licensure of adequately qualified

physicians regardless of the name or geographic location of the states from which they apply.

One of the present barriers to uniform practice in medical licensure is found in those states which have enacted "basic science" laws seeking to control and eliminate cult and irregular practice. Such acts require that every candidate who comes before the medical board for examination shall be given a test in the "basic sciences" regardless of the method by which he proposes to practice the healing art. The thought behind such laws is to establish a base line of minimum requirements for all who aspire to practice the healing art, regardless of the method of treatment employed. Alabama has but one yardstick for all who assay to treat diseases of human beings, into which unit of measurement no therapy is incorporated. The application of this yardstick is vested, by law, but fairly and impartially, in a board of medical examiners, composed exclusively of regular medical practitioners, the only qualifying condition being that in the case of any applicant not of the regular school, the educational qualifications are waived. In Alabama, as in other states, many attempts have been made by the various cults to batter down these high standards, but so far without success. It safeguards the legal interest of citizens and answers effectively the charge of selfish motives put forth in cult propaganda against practitioners of scientific medicine. The disadvantages of basic science laws are easily discernible in that it complicates licensure and exacts a superfluous and unwarranted amount of work in examining candidates who have been graduated from grade A medical schools.

Owing to certain complications inevitably growing out of such a "basic science" law, the federation has not seen fit to give it unqualified endorsement; yet, in some of the states, basic science legislation has aided in controlling the wholesale issuance of cult license by independent or political boards.

Should candidates who have failed before a medical board be subsequently licensed by reciprocity? Alabama has been the subject of some comment on this score in that it does not grant a pro forma certificate to any physician who has once failed before its own medical board of licensure. It has been a continuing belief of the Alabama board that the standards for reciprocity should be even higher than those for examination. With this thought in mind, it is felt that this rule should receive wider observance and should certainly not be abrogated at this time by any state board.

DISCUSSION

DR. ROY B. HARRISON, New Orleans: Louisiana has a straight medical board, and our reciprocity deals entirely with physicians. Our law requires that one has to be a graduate of a class A medical school graded by the American Medical Association, to practice one year subsequent to licensure, and to have at least ten major subjects with an average of 75 per cent in each one. Each application for a license by reciprocity is handled as an individual case. We have some applications on file for three months before they are passed on. We found through experience that many men will move to another state for other reasons than change of climate; we find there is quite a bit behind their transferring from one state to another. We have a temporary permit to a reciprocity applicant, which gives plenty of time to investigate before we finally act on his application. We investigate him through the American Medical Association and through the place he last resided and through the place where he contemplates practicing. We require that each individual be an American citizen before we give him a license by reciprocity or by examination. We do not even consider any foreign application for reciprocity. We examine all, and we look up their credentials and so forth in Europe or wherever they come from. The Louisiana board is, I think, a bit different from some boards, in that we have a straight, out and out medical board, and we have as few cults as any state in the United States. We have no chiropractors, and the other cults are in the minority. The osteopaths have their own board. They are not allowed to use drugs in any form. I think there are only twenty-five in the state of Louisiana. The chiropodists and the opticians have a limited license. One of the principal objections to standardizing reciprocity is that one state will have a medical practice act that is more severe than that of another state. Ours has been severe, and we are going to keep it severe as long as we can. We are going to keep it a straight medical board and prosecute all cults as they come up.

DR. H. M. PLATTER, Columbus, Ohio: Ohio will accept, through reciprocity, a man licensed in another state who meets the Ohio requirements for entrance to the examination at the date of his graduation and is from a school that would permit him to write the Ohio examination. There is no reason why there should be a varying standard of requirement in the several states, of men who are graduates of a class A medical school. A committee of this federation, meeting with a committee from the Association of American Medical Colleges, might work out a working agreement which could be applied to every state in the Union. It is our practice to send out about twelve letters on every applicant for reciprocity. They go to the county medical society, to physicians who are Fellows of the American Medical Association who are known to us either personally or by reputation, to the American Medical Association, and frequently to some man of prominence in the town from which the man is coming.

DR. C. H. EWING, Larned, Kan.: I sometimes wonder whether we do not take ourselves too seriously in the matter of qualification of members in reciprocity. I see in THE JOURNAL a list of the failures from various schools and I wonder if we are qualified to pass on the ability of the students from these schools better than the heads of our universities. I sometimes wonder whether there is not something wrong with the medical board instead of the university or the students. Reciprocity is more or less of a joke in some states. In our state we have a medical board. The chiropractors have a board of their own. The osteopaths have a board. We have nothing to do with them at all. We do not permit a student to take our examination unless he is the graduate of a class A medical school. The heads of our universities know when these students are qualified to practice medicine and we rely on their judgment. For that reason, we do not have any failures.

DR. H. J. LEHNHOFF, Lincoln, Neb.: A man seeking licensure in Nebraska by reciprocity does not have to take an examination before the basic science board. They have the privilege of passing him without an examination and in most cases do. There are difficulties with the basic science boards. I think their requirements are too high. Several years ago this federation advised the basic science boards to come to a better agreement among themselves, which I think was good advice. I do not think they should require a grade of 75 for passing, when practically all of the medical boards require only 60. The board of Nebraska and the physicians in general do not want to bar students from other states. I think it is the feeling of all of us that we want a freer reciprocity. There are a lot of little things in reciprocity and licensure that we could agree on. We surely can agree on the age of the individual who is applying for licensure. We ought to agree on his citizenship, but we do not. Some states require full citizenship, some of them require the filing of the first papers or the second papers. If we went at this carefully, we could get together on reciprocity and all be very much happier.

DR. O. G. COSTA-MANDRY, San Juan, Puerto Rico: If I am not mistaken, the Alabama board does not recognize reciprocity to any individual who has failed in an examination in the state from which he came. Am I correct?

DR. J. N. BAKER, Montgomery, Ala.: No. We have had instances wherein a man would fail before our board, go into an adjoining state and pass that examination, and come back and want reciprocity. We do not give reciprocity in those cases.

DR. COSTA-MANDRY: I do not think that an examination is always a fair means of judging the ability of an individual. If an individual makes a good showing in practically every subject and flunks in one subject, one has to consider a lot of factors that one would not otherwise consider. In our board we have a special ruling for grading examination papers. We divide the subjects into two groups. Our passing mark is 75 per cent. We allow an individual to fail on one examination in each group of subjects, and if he makes an average of 75 per cent we pass him; but if he does not make the average of 75 per cent, he has the right to solicit the representation of all his papers to see whether a mistake was made in grading them. I am more inclined to think that one should consider

the cases individually on the merits of each case rather than to make a hard and fast rule and say that, if an individual fails to pass the examination in a certain board because he has failed on one subject, he should be barred or denied the privilege of reciprocity, especially if that individual has been in practice and has made good. We have reciprocity with the state of New York, and we have a special agreement with the state of Pennsylvania by which we give men who are licensed in Pennsylvania the same privileges that Pennsylvania gives men licensed in Puerto Rico. Pennsylvania makes a special case of every individual; that is to say, it is not obliged to give reciprocity to any of our men just because they solicit it, but it studies the case and if it thinks the individual deserves it, it extends that courtesy. We do the same thing. With New York State we have a reciprocal agreement by which it extends reciprocity to all the men who hold licenses of the state of Puerto Rico. If an individual graduated at a time when the requirements were less than at present, New York and Puerto Rico consider five years of practice in the state an equivalent to the requirements which that individual has not met. That is why I think the boards should make an individual case of every one that applies for a license, as they do in Louisiana, because in that way one gives a fairer chance to any one who comes up for licensing.

DR. J. N. BAKER, Montgomery, Ala.: Recently I checked up on the men who had appeared before our board for the last ten or eleven years. We have not rejected a single man in the last ten years who was a graduate of a grade A medical school, which is a requirement of our board so far as examination is concerned. I have the feeling that after a young man has spent so much of his life in equipping himself at a grade A medical school, with one or two years of hospital training, it is not fair for an examining board to make him go over the elementary grounds again. Our licensing boards have served a most valuable purpose. When we had diploma mills we had to protect both the recognized medical profession and the public at large, but now I think we have set up a machine that we can rely on. Reciprocity should be carefully considered by every licensing board. So far as admitting a man to my state is concerned, if he shows good technical training I would rather spend several months investigating his character and moral fiber before he comes into Alabama. I think that is one of the most valuable points to be borne in mind by licensing boards.

DR. CROWE: If you will all commence an index of men who have been convicted of crime and whose licenses have been revoked in other states, taking newspaper clippings and the *Federation Bulletin* showing the convictions in the various states, you will be surprised how large a list you will have of men who will approach you for a license, whose licenses were revoked in some other state or who have been convicted of a crime of some kind. I suggest that that method be pursued, and also that you resort to the files of the biographic department of the American Medical Association for further information on every applicant who comes to you for reciprocal endorsement. In Texas we cut the word "reciprocity" out of our statute. We do not reciprocate, and yet we receive men from every state in the Union, regardless of what the other states will do for our licentiates. We take the man on his merits and on his qualifications.

MEDICAL BROADCAST FOR THE WEEK

American Medical Association Health Talks

The American Medical Association broadcasts on Tuesday and Thursday from 9:15 to 9:20 a. m., Chicago daylight saving time, which is one hour faster than central standard time, over Station WBBM (770 kilocycles or 389.4 meters).

The subjects for the week are as follows:

May 23. Vacations and Typhoid.
May 25. Hitch Hikers.

There is also a fifteen minute talk sponsored by the Association on Saturday morning from 9:45 to 10 o'clock over Station WBBM.

The subject for the week is as follows:

May 27. Swimming Hazards.

Medical News

(PHYSICIANS WILL CONFER A FAVOR BY SENDING FOR THIS DEPARTMENT ITEMS OF NEWS OF MORE OR LESS GENERAL INTEREST: SUCH AS RELATE TO SOCIETY ACTIVITIES, NEW HOSPITALS, EDUCATION, PUBLIC HEALTH, ETC.)

ARKANSAS

Personal.—Dr. John R. Kitley has been reelected mayor of Mayflower.——Dr. Frank C. Maguire, Augusta, was recently appointed coroner of Woodruff County.——Dr. Charles A. Arkebauer, Little Rock, who has been associated with the State Hospital for Nervous Diseases for thirty-two years, has been elected chief of the medical staff, a position recently created to replace that of superintendent.——Dr. George A. Hays, Pine Bluff, has resigned as director of the city and Jefferson County health departments after four years' service.

Society News.—The Sebastian (Ark.) and Muskogee County (Okla.) medical societies were addressed at a joint meeting, recently, by Drs. Joel T. Woodburn on childhood tuberculosis; James F. Campbell, epidemiology of ringworm; John H. White, diagnosis and treatment of goiter, and Charles E. White, use of calcium in pregnancy. All the speakers were from Muskogee, Okla.——A recent meeting of the Union County Medical Society was addressed by Drs. John A. Moore and Arley D. Cathey, El Dorado, on influenza with complications and ectopic pregnancy, respectively.——Drs. Francis T. H'Doubler and Elmer G. Wakefield, Springfield, Mo., gave a joint paper on "Preoperative and Postoperative Care of Pyloric Obstruction" before the Washington County Medical Society, recently.

CALIFORNIA

Society News.—At a meeting of the San Francisco County Medical Society, May 9, Drs. Robert C. Coffey, Portland, Ore., spoke on "Quarantine Principle as Applied to the Treatment of Disease," and Sadie D. Patek, "A Study of the Results of Specific Treatment of Syphilitic Pregnant Women and Their Offspring."——A preview of the installations of habitat groups of African mammals in its museum was a feature of the celebration of the eightieth anniversary of the founding of the California Academy of Sciences in San Francisco, April 4. When completed, these installations will include ten large groups, thirteen intermediate small size groups and one very large waterhole group. All will be artificially illuminated.——A Greek program was presented by the California Medical History Seminar at the Bohemian Club in San Francisco, April 21. Dr. Pan S. Codellas discussed the work of Adamantios Koraes (1748-1833).

Bills Enacted.—The following bills have become laws: A. 317, amending the state narcotic drug act, by (1) requiring practitioners to preserve for not less than two years records of narcotic drugs prescribed, administered or dispensed; (2) providing that proof of the possession by the defendant of a greater amount of narcotic drugs than is accounted for by his records shall be prima facie evidence of guilt; (3) forbidding the possession of a false or fictitious prescription or one that has been altered by any person other than the prescriber, and (4) providing for the forfeiture of vehicles used in the unlawful transportation of narcotic drugs. A. 318, amending an act to regulate the sale of poisons, approved March 6, 1907, by (1) providing that the registration of any registered pharmacist may be revoked on conviction of violating any of the narcotic provisions of the act; (2) making it "unlawful for any person to open or maintain, to be resorted to by other persons, any place where opium . . . or hemp or loco weed . . . is sold or given away to be smoked on the premises," and for any person to resort to such a place; (3) making it legal for registered nurses to acquire and possess, without written orders from licensed physicians, hypodermic syringes and needles; (4) defining "physician" to include licensed osteopaths; (5) prescribing a procedure for forfeiting vehicles used in the unlawful transportation of narcotic drugs, and (6) permitting physicians in good faith to prescribe or furnish narcotic drugs to patients suffering with incurable diseases, ailments or injuries, other than narcotic addiction, and requiring physicians prescribing or furnishing narcotics to habitual users to report that fact by registered mail to the division of narcotic enforcement.

COLORADO

Bill Passed.—H. 734 has passed the house, proposing to create a state board of osteopathic examiners, to exercise all the rights and powers and perform all the duties now vested by law in the state board of medical examiners with respect to the practice of the healing arts by osteopaths.

CONNECTICUT

Bill Enacted.—H. 570 has been enacted as chapter 139, Laws of 1933, amending the medical practice act by (1) providing that all applicants for licenses, whether by examination or by reciprocity, shall be citizens of the United States or shall have on file written declarations of intention to become citizens, (2) raising from $15 to $50 the fee required for issuing licenses by reciprocity, (3) exempting from examinations holders of certificates from the National Board of Medical Examiners, although they have not been in active practice for three years and (4) providing that persons, graduates from medical colleges prior to Jan. 1, 1919, and persons eligible for examination before that date shall not be required to have a one year college course in chemistry, physics and general biology, as is required of all other applicants.

FLORIDA

Bills Introduced.—S. 212 proposes to authorize the state board of health to license persons to practice midwifery, and to promulgate such rules and regulations as it may deem necessary for regulating the practice of midwifery. S. 373 and H. 686 propose to require the annual registration of pharmacies with the state board of health, and to authorize the state board of health to appoint one or more registered pharmacists to act as inspectors to aid it in enforcing the pharmacy practice act. H. 685, to amend the pharmacy practice act, proposes to raise the annual registration fee required of registered pharmacists from $1 to $5. H. 769 proposes that all members of the state boards of medical examiners, osteopathic examiners, chiropractic examiners and naturopathic examiners shall receive $25 for each day they are actually engaged in the discharge of their official duties and 3 cents for each mile necessarily traveled in going to and from meetings of their boards. H. 774 proposes to permit all licensed practitioners of the healing art to practice within the confines of all hospitals maintained wholly or partly by public funds and to treat their patients therein in accordance with the method of their several schools of healing. H. 771 proposes to require physicians, osteopaths, chiropractors and naturopaths to pay an annual license fee of $5 to the boards which licensed them. Ten per cent of the fees so collected is to be remitted to the state treasurer and the remainder is to be retained by the several boards. H. 768 proposes that a person required by statute to be examined and to have a certificate showing the state of his health may be examined by and obtain such a certificate from any practitioner of the healing art. H. 773 proposes to authorize the boards of medical examiners, osteopathic examiners, chiropractic examiners and naturopathic examiners to grant licenses without examinations to licentiates of like boards of other states whose requirements are equal to the requirements of Florida. H. 772 proposes to require all applicants for licenses to marry to present certificates from licensed practitioners of the healing art that both parties to the proposed marriages are in good physical condition and are free from communicable diseases. H. 770 proposes to require the governor to appoint one doctor of medicine, one osteopath, one chiropractor and one naturopath to serve on the board of governors or board of trustees of every hospital and other institution maintained wholly or partly by the state funds.

ILLINOIS

Bills Introduced.—H. 784 and 785 propose to create a board of chiropractic examiners and to regulate the practice of chiropractic. Chiropractic is defined to be the science of palpating and adjusting the articulations of the human spinal column without the use of drugs or surgery. Applicants for such a license must be high school graduates and have graduated from schools of chiropractic approved by the department of registration and education, after completing courses for three school years of not less than six months' duration each. However, persons who on the 31st of December, 1933, are students in schools of chiropractic may be licensed even though they do not have high school educations and their chiropractic schools are not approved by the department. H. 808 proposes extensive amendments to the Illinois dental practice act. It exempts from the operation of the act "the rendering of dental relief in emergency cases in the practice of his profession by a physician or surgeon, licensed as such and registered under the laws of this state, unless he undertakes to reproduce or reproduces lost parts of the human teeth in the mouth or to restore or replace in the human mouth lost or missing teeth." H. 842 and H. 843 propose to create a board of examiners for "the medical practitioners who practice osteopathy" and to regulate the practice of osteopathy. The board is to be authorized to issue two kinds of licenses: (1) licenses to practice osteopathy in all its branches (according to the teaching of the osteopathic school of practice) and (2) licenses to practice osteopathy in all its branches, except major surgery. The holders of both kinds of licenses are to be permitted to make and sign birth and death certificates and to practice in hospitals supported in whole or in part by public taxation.

Chicago

Miller Finally Pays His Fine.—With the payment of a $2,000 fine to the clerk of the criminal court, April 24, the case of William Henry Harrison Miller, former director of the state department of registration and education, as related to diploma mill activities, apparently was brought to a close. Miller's first flagrant violation of the law was disclosed in April, 1922, when the Cook County grand jury charged him and three others with trafficking in state licenses to practice in various professions. He had been appointed director of the state department in January, 1921. It was revealed during the investigations that the questions to the state board examinations were being sold to prospective applicants. Following an investigation by the state's attorney and a committee appointed by the governor, Miller was indicted by the grand jury for conspiracy and was found guilty, Jan. 28, 1923. He paid a fine of $1,000 in open court, Jan. 30, 1923. Miller's dismissal by Governor Small had occurred in August, 1922, following his refusal to resign after the medical board had recommended his removal. A. M. Shelton, Crystal Lake, succeeded him as director. Hearings were begun, April 13, 1923, to revoke all licenses illegally issued under Miller's administration. In the interim, however, several states had suspended reciprocal relations with Illinois on account of the investigation, but these were restored following the board's reorganization in the latter part of 1922. Again, on Dec. 10, 1929, Miller was found guilty of conspiracy to sell medical and dental licenses to persons not qualified to practice. This trial was the result of an investigation carried on by a new administration into the charges of illegal traffic in licenses. The chief state witness was the late Dr. Robert Adcox, St. Louis, who was involved in the Missouri diploma mill exposé in 1923. He, it was claimed, conspired with Miller in 1928. These new charges were preferred against Miller following his indictment with several others on the charge of operating a "ring" to sell medical and dental licenses. This "ring" had in its possession special license plates. During the investigation, an attempt was made to "lose" these plates in the drainage canal. Two forged seals were recovered by divers from Lake Michigan near the Navy Pier. The sentence imposed in this instance was seven months and one day in jail and a maximum fine of $2,000. Miller was denied a new trial, Jan. 5, 1930, but he was at liberty without bond until Jan. 22, 1932, when he was arrested in Champaign. He had failed to post a bond for his appeal, and officials neglected to commit him to jail pending its schedule. Miller served the seven months' sentence but was detained in jail on its completion because of failure to pay the $2,000 fine. In his petition for release, Miller stated that he was penniless, having transferred all his property to his wife in Champaign. In a previous hearing, however, the judge had indicated that the transfer was fraudulent. In November, 1932, he was released from the county jail on a $3,500 bond. Under a decision given by the Illinois Supreme Court, April 22, Miller was ordered to pay the $2,000 fine or serve an indefinite time in the county jail. He paid the fine.

IOWA

Lectures on the Heart.—The Dickinson County Medical Society, at its meeting, February 23, inaugurated a series of monthly lectures on the heart to continue through July. Physicians participating in the series and their subjects are as follows:

Charles S. Shultz, Spirit Lake, Anatomy and Physiology of the Heart.
Clyde G. Nicholson, Spirit Lake, Acute Pericarditis.
Donald F. Rodawig, Spirit Lake, Myocardial Disturbances.
Peter G. Grimm, Spirit Lake, Endocarditis.
Edward J. Johnson, Milford, Arrhythmias.
Ruth F. Wolcott, Spirit Lake, Auricular Fibrillation.
Ferdinand J. Smith, Milford, Arteriosclerosis and Hypertension.
Cassius M. Coldren, Milford, Cardiovascular Renal Disease.
Quintus C. Fuller, Milford, Coronary Thrombosis.
Earl R. Leonard, Lake Park, Aortic Valvular Lesions.
Alfred H. Schooley, Terril, Mitral Valvular Lesions.
William E. Bullock, Lake Park, Treatment of Decompensation.
Ferdinand J. E. Smith, Milford, Essential Hypertension.

MARYLAND

Dr. Bard Appointed Professor of Physiology at Johns Hopkins.—Philip Bard, Ph.D., assistant professor of physiology, Harvard University Medical School, has been appointed professor of physiology at Johns Hopkins University School of Medicine, effective September 1. This professorship has been vacant since the resignation in 1931 of Dr. William H. Howell,

who had held the position since 1893. Dr. Bard was connected with Harvard from 1925 to 1928 and with Princeton University from 1928 to 1931 as assistant professor of biology. In the latter year he rejoined the staff at Harvard as assistant professor of physiology.

Review Course for Physicians.—The division of medical extension of the University of Maryland will conduct its tenth annual review course for physicians, June 5-23. This will be a single, intensive general course, designed to give to the physician in general practice the opportunity of studying those methods of diagnosis and treatment in current use in the University Clinics. This year the course will be limited to twenty men. A matriculation fee of $25 will be charged residents of the state, while registrants from out of the state will be charged $50. The program will consist of lectures, ward rounds, clinics and dispensary clinics. Afternoon periods will be devoted to laboratory methods of diagnosis. Further information may be obtained from the dean of the University of Maryland School of Medicine, Baltimore.

MASSACHUSETTS

Dr. Cushing Receives Bigelow Medal.—Dr. Harvey Cushing, until his resignation last year Moseley professor of surgery, Harvard University Medical School, Boston, was presented with the Bigelow Medal by the Boston Surgical Society, May 3. The late Dr. William Sturgis Bigelow, in 1915, gave the society a sum of money with the stipulation that the interest from the funds should from time to time be devoted to the presentation of a medal to one chosen for his "contributions to the advancement of surgery." The medal was a memorial to his father, the late Dr. Henry Jacob Bigelow. In the eighteen years since its establishment, the medal has been awarded only six times:

1921, Dr. William J. Mayo, Rochester, Minn.
1922, Dr. William W. Keen, Philadelphia.
1926, Dr. Rudolph Matas, New Orleans.
1928, Dr. Chevalier Jackson, Philadelphia.
1931, Prof. George Grey Turner, Newcastle-upon-Tyne, England.
1932, Dr. John M. T. Finney, Baltimore.

Dr. Cushing presented a paper at this meeting on "Homo Chirurgicus."

Health Education Meeting.—The eighth annual session of the New England Health Education Association will be held at the Massachusetts Institute of Technology, Boston, June 2-3. Samuel C. Prescott, head of the department of biology and public health of the institute, will give the address of welcome. "Nutrition and the School Child" will be discussed by Miss Gertrude Spitz, chief of food clinic, Beth Israel Hospital, Boston; "School Problems in Mental Health," James Mace Andress, Ph.D., Newtonville; "Physical Education and the School Health Program," Mr. Richard Schmoyer, director of health and physical education, public schools of Lynn, and "Administration of the School Health Program," Clair E. Turner, Dr.P.H., professor of biology and public health at the institute. Dr. Haven Emerson, professor of public health administration at Columbia University College of Physicians and Surgeons, New York, will speak on "Medical Facts and Popular Fallacies as to the Effects of Alcohol on Man," and Dr. Frankwood E. Williams, New York, "Youth, the School and the Present-Day World."

State Medical Meeting in Boston, June 5-7.—The one hundred and fifty-second annual meeting of the Massachusetts Medical Society will be held in Boston, June 5-7, with headquarters at the Hotel Statler, and under the presidency of Dr. Halbert G. Stetson, Greenfield. Out of state speakers on the program will include the following:

Dr. Frederick C. Holden, New York, Pelvic Inflammation. Course and Treatment—Elliott Heat Apparatus.
Dr. James Burns Amberson, Jr., New York, Changing Aspect of Tuberculosis Treatment.
Frank A. Hartman, Ph.D., Buffalo, Certain Functions of the Adrenal Cortex.
Dr. William H. Schmidt, Philadelphia, Fever Therapy and Other Recent Developments in Physical Therapy.
Dr. Eugene P. Pendergrass, Philadelphia, Pneumonoconiosis.
Dr. John J. Moorhead, New York, Relation of Trauma in Hernia.

Other speakers will include the following physicians:

Foster S. Kellogg, Boston, Placenta Praevia.
Carmi R. Alden, Newton Center and Boston, Use of Pituitrin in Obstetrics.
Alton S. Pope, Newton, Pulmonary Tuberculosis in Adolescence, with Special Reference to Frequency, Diagnosis and Prognosis.
George W. Holmes, Boston, Conditions in Which the Roentgen Examination May Lead to an Erroneous Diagnosis of Pulmonary Tuberculosis.
Joseph C. Aub, Boston, Progress in the Study of Internal Secretions.
Henry S. Finkel, Boston, Present Status of Our Knowledge of the Ovarian Hormones.
Fuller Albright, Boston, Hyperparathyroidism: Its Diagnosis and Exclusion.
Tracy J. Putnam, Brookline, Present Status of Disease of the Hypophysis.
George L. Stivers, Worcester, Use of Surgical Diathermy (or Endothermy) in Separating Pleural Adhesions in Cases of Pulmonary Tuberculosis.
Richard H. Miller, Boston, Umbilical Hernia.
Henry C. Marble, Newton and Boston, Problem of Recurrent Hernias.
Richard B. Cattell, Boston, Diseases of the Thyroid Gland in Children.
Edwin T. Wyman, Boston, Vitamin D Milk.
Paul W. Emerson, Boston, Feeding of Human Milk Preserved by Freezing.
Cleophas P. Bonin, D.M.D., Boston, What the Pediatrician Can Do For Dental Cripples.

Dr. Elliott C. Cutler, Moseley professor of surgery, Harvard University Medical School, will deliver the Shattuck Lecture on "The Origins of Thoracic Surgery." Dr. Channing Frothingham, Boston, will present the annual discourse on "The Trend of Medicine in the Twentieth Century." Mr. James H. Holland, of the Liberty Mutual Insurance Company, Boston, has been invited to speak on "Hernia from the Compensation Insurance Standpoint."

MICHIGAN

Bills Introduced.—H. 579, to amend the chiropody practice act, proposes, in effect, to permit licensed chiropodists to treat ailments of the human leg and foot medically, surgically, mechanically or by physiotherapy. The bill proposes, too, to permit such licentiates to use the title "Dr." if the word "Chiropodist" follows their names. S. 204 proposes to permit licensed physicians to prescribe such amounts of intoxicating liquors as they deem necessary to supply the bona fide medical needs of their patients. S. 195 proposes that the law prohibiting employment of males under the age of 18 years and females for a period longer than fifty-four hours in any week or ten hours in any one day shall not apply to the employment of student and graduate nurses in privately owned hospitals.

MINNESOTA

Society News.—The Minnesota Hospital Association will hold its annual convention in Minneapolis, May 25-26. Speakers will include Drs. George F. Stephens, superintendent, Winnipeg General Hospital, Winnipeg, Manit.; Bert W. Caldwell, executive secretary, American Hospital Association, Chicago; Malcolm T. MacEachern, director, hospital activities, American College of Surgeons; Charles H. Mayo, Rochester, and Clarence Rufus Rorem, Ph.D., associate for medical services, Julius Rosenwald Fund, Chicago.——At a meeting of the Minnesota Academy of Medicine, May 10, Drs. Edwin L. Gardner, Minneapolis, spoke on "Calcium Deficiency Associated with Functional Gastro-Intestinal Disturbances in Adults" and Henry E. Michelson, Minneapolis, "Tuberculodermas of the Face."

NEW HAMPSHIRE

Bills Introduced.—S. 34 proposes that the board of medical examiners, the board of examiners of embalmers, board of examiners in chiropody, board of chiropractic examiners, board of registration in optometry, the state dental board and the commission of pharmacy and practical chemistry be attached to the state board of health for the purposes of general administration. It is to be the duty of the state board of health to provide facilities for the meetings of the boards named and for the custody and care of their records and to exercise such general supervision over their operations as will enable it to satisfy itself that such boards are properly performing all the duties imposed on them by law. S. 37 proposes to make the "reasonably permanent" insanity of either spouse a cause for divorce.

NEW YORK

Personal.—Frank A. Hartman, Ph.D., professor of physiology, University of Buffalo, was recently awarded the Schoellkopf Medal for 1933 in recognition of his work on cortin. The medal is bestowed by the western New York section of the American Chemical Society.——Dr. Clara H. Pierce, Syracuse, was elected president of the Women's Medical Society of New York State at the annual meeting in New York, April 3.——A painting by Dr. Konrad E. Birkhaug, now an investigator in the Institut Pasteur in Paris, has been accepted for Le Salon de 1933, the annual exhibit of art in Paris; and a series of four large aquarelles for the annual exhibit of students' work made by the Société Nationale des Beaux-Arts.

Nassau County Tumor Clinic.—The Nassau County Cancer Committee, a branch of the American Society for the Control of Cancer, has organized a temporary clinic for diagnosis and treatment of tumors at the Nassau County Tuberculosis Sanatorium, Farmingdale. Citizens of Nassau County contributed funds for radium and the board of managers of the proposed new Meadowbrook Hospital made available a high voltage therapy x-ray machine. It is expected that all the clinic facilities will be transferred to Meadowbrook Hospital when it is completed. The committee has organized a

rotating service of attending physicians, with the assistance of the Medical Society of the County of Nassau and the medical boards of the three larger hospitals of the county. This clinic was established, the committee announced, to provide diagnosis and treatment for persons unable to meet the costs of the service through private channels. In addition, roentgen therapy is available for those able to pay, since the clinic is the only place in the county where a tumor patient confined to bed may receive this treatment. It also aims to supply graduate education to the physicians of the county. A charge of $3 a day is made for all patients, as there is no appropriation to cover the expenses of the clinic. Those who are unable to meet the expense themselves may arrange for care through the welfare authorities. All patients must be referred through private physicians; the county medical society will assist those who have no family physician in selecting one. Patients will be given care only with the advice and consent of the physician who stands in the position of family physician.

New York City

Course on Heart Disease.—Columbia University's extension division announces that an intensive four weeks' course on diseases of the heart and circulation will be given at Mount Sinai Hospital, June 5 to July 1. A limited amount of time will be devoted to lectures and an attempt will be made to conduct the course so as to recreate for the student conditions of actual practice. The fee for the course will be $100. Instructors will be Drs. Murray H. Bass, Ernst P. Boas, Arthur M. Fishberg, Louis Gross, Maurice A. Kugel, Hubert M. Mann, Arthur M. Master, Hermann Mond, Bernard S. Oppenheimer, Irving R. Roth and Marcy L. Sussman.

The Prevention of Asphyxial Death.—The newly organized Society for the Prevention of Asphyxial Death has called a conference of physicians, hospital executives, health commissioners and insurance and utility company officials of New York state to meet at the New York Academy of Medicine, May 24, under the auspices of the academy's committee on public relation. Addresses will be delivered by the following:

Dr. Shirley W. Wynne, New York City health commissioner, vital statistics relating to asphyxia.
Dr. Harrison S. Martland, Newark, N. J., medical examiners' findings in asphyxial cases.
Dr. Daniel J. Donovan, chief surgeon, New York City police department, first aid and resuscitation methods.
Albert W. Whitney, associate general manager, National Bureau of Casualty and Surety Underwriters, economic aspects of asphyxial mortality.
Dr. Chevalier Jackson, Philadelphia, fundamentals of laryngoscopy as applied in resuscitation.
Yandell Henderson, Ph.D., New Haven, Conn., use of oxygen and carbon dioxide in resuscitation.
Dr. Edmund B. Piper, Philadelphia, practical application of laryngoscopy and gas therapy.
Dr. Pol N. Coryllos, New York, negative pressure cabinet in treatment of asphyxia.
Dr. John F. McGrath, New York, ways and means of applying the improved resuscitation principles to medical and hospital practice.

A preliminary report issued by the directors of the society calls attention to the fact that asphyxial death is an important public health problem. More than 50,000 deaths from asphyxia occur in the United States every year; approximately 2,800 in New York City alone. The death rate from this cause in New York is said to be twice that from automobile accidents. The report lists fifteen causes of acute asphyxia and death, including submersion, poisoning from illuminating gas, carbon monoxide and drugs, electrical shock, acute alcoholism, pulmonary diseases, suffocation from strangulation, poliomyelitis and asphyxia of the still-born.

NORTH DAKOTA

State Medical Meeting at Valley City, May 31-June 2.—The annual meeting of the North Dakota State Medical Association will be held at Valley City, May 31-June 2, under the presidency of Dr. Paul H. Burton, Fargo. The tentative program includes the following physicians as speakers:

Frederick C. Rodda, Minneapolis, Intussusception
Albert M. Brandt, Bismarck, Diagnosis and Treatment of Primary Uterine Bleeding.
Leonard W. Larson, Bismarck, Legislative Matters.
Frank I. Darrow, Fargo, Diabetes Mellitus.
John D. Carr, Jamestown, Promotion of Preventive Mental Medicine.
James F. Hanna, Fargo, Treatment of Persistent R. O. P. Position.
Alano E. Pierce, Minot, Coronary Thrombosis.
John deJ. Pemberton, Rochester, Minn., Carcinoma of the Rectum and Rectosigmoid.
Reuben H. Waldschmidt, Bismarck, Treatment of Fractures of the Spine.
Robert W. Allen, Bismarck, A Plan for Tuberculosis Control in North Dakota.
John D. Graham, Devils Lake, Rectal Anesthesia in Obstetrics.

Clinics will be conducted by Drs. Pemberton and Rodda, and Melvin S. Henderson, Rochester. The annual dinner will be addressed by Dr. Frank L. Rector, Evanston, Ill., on "Cancer Control in North Dakota"; L. Benshoof, editor, the *Detroit Record*, Detroit Lakes, Minn., "Medical Publicity," and Richard E. Scammon, Ph.D., Minneapolis, "Guild Medicine."

OKLAHOMA

Bill Enacted.—H. 43 has become a law, prohibiting the possession and distribution of veronal, barbital, luminal, chloral hydrate, bromidia or somnos except on the prescription of a licensed practitioner of medicine, osteopathy, dentistry or veterinary medicine.

PENNSYLVANIA

Personal.—Dr. Harry W. Mitchell has resigned as superintendent of Warren State Hospital, Warren, after twenty-one years' service. Dr. Mitchell is reported to be critically ill. Dr. Ira A. Darling succeeds him at the hospital.——Dr. Wilhelmina L. Scott has recently resigned as resident physician at Rossmere Sanatorium, Lancaster. She was succeeded by Dr. Lloyd S. Hutchison.

Philadelphia

Society News.—The thirtieth Mary Scott Newbold Lecture of the College of Physicians of Philadelphia was delivered, May 3, by Dr. Ronald T. Grant, University College Hospital Medical School, London, on "Prognosis of Valvular Disease of the Heart." Dr. Grant gave a second lecture on the subject, May 5.——Dr. Norman S. Rothschild, among others, addressed the Philadelphia Academy of Surgery, May 1, on "Repair of Large Incisional Hernia by Flaps of Anterior Sheath of Rectus."——Dr. Abraham M. Ornsteen addressed the Philadelphia Medical Examiners' Association, May 1, on "Medicolegal Problems."——Drs. Albert C. Buckley and Mitchell P. Warmuth were speakers at a meeting of the Philadelphia Clinical Association, May 2, on "Psychiatric Problems in General Medicine and the Specialties" and "Acute Hemorrhagic Pancreatitis," respectively.——Drs. Juan H. Font and John L. Quinn, among others, addressed the Philadelphia Laryngological Society, May 2, on "Syphilis of the Middle Ear" and "Diagnosis and Treatment of Laryngeal Tuberculosis," respectively.

VIRGINIA

Promotions at Medical College.—At the midwinter meeting of the board of visitors of the Medical College of Virginia, Richmond, the following promotions were announced:

Dr. Wyndham B. Blanton, to professor of medicine.
Dr. William R. Bond, to professor of physiology and associate professor of pharmacology.
Dr. Robert H. Courtney, to associate professor of ophthalmology.
Dr. Harvey B. Haag, professor of pharmacology and associate professor of physiology.
Dr. Daniel D. Talley, Jr., to professor of roentgenology, succeeding the late Dr. Alfred L. Gray.
Harry Lyons, D.D.S., professor of peridontia and oral pathology.

A portrait of Dr. Richard L. Bohannan, first professor of obstetrics and diseases of women and one of the founders of the Medical College of Virginia, has been presented to the college by his descendants, for the Founders' Room in the new library.

Activities of Richmond Academy.—The Richmond Academy of Medicine has begun publication of a quarterly bulletin, the first issue dated March. The new bulletin is a part of a general reorganization undertaken by the academy since its new building was opened in September, 1932. The Richmond Ophthalmological, Rhinological and Otological Society recently voted to become the eye, ear, nose and throat section of the academy, and similarly the Richmond Pediatric Society is now the pediatric section. Other sections will be organized, according to the bulletin. The academy has also inaugurated monthly clinical meetings, to be in charge of Richmond hospitals in rotation. Drs. William Gerry Morgan and Wallace M. Yater, Washington, D. C., addressed the academy, April 11, on "Hepatosplenography" and Dr. Frederick M. Hodges, "Therapy of Keloids." Drs. Isaac A. Bigger and Joseph Bear spoke, May 9, on "Treatment of Superficial Burns" and "Treatment of Eclampsia," respectively.

WISCONSIN

Society News.—The Milwaukee Pathologists Society was recently organized with Drs. Edward L. Tharinger as president and Marcos Fernan-Nunez as secretary.——Dr. Chester C. Schneider addressed the Milwaukee Pediatric Society, April 19, on "Fractures in Children."——Drs. W. F. Lorenz, Madison, and James P. Simonds, Chicago, addressed the Milwaukee County Medical Society, Milwaukee, April 14, on "Neurosyphilis" and "Newer Problems in Immunity to Disease," respectively.——Dr. Walter M. Simpson, Dayton, Ohio, addressed the Milwaukee Academy of Medicine, April 18, on

undulant fever. Speakers before the academy, May 16, were Drs. Lester M. Wieder, on "Rhinoscleroma"; James C. Sargent, "Careful Diagnosis and Conservative Management of Urinary Stones," and J. Edwin Habbe, "Roentgen Findings in Splenomegaly."

Radiologic Meeting.—Dr. Arthur U. Desjardins, Rochester, Minn., was the guest speaker at the annual meeting of the section on radiology of the Wisconsin State Medical Society at Fond du Lac, May 19-20. Dr. Desjardins presented two addresses on "The Action of Roentgen Therapy on Tuberculous Processes" and "Roentgen Therapy as a Means of Treating a Variety of Tumors," the latter at a joint session with the Fond du Lac County Medical Society. Among Wisconsin physicians who presented papers were:

Ernst A. Pohle, Madison, Experience with the Protracted Fractional Dose Method.
Barton W. Johnson, Fond du Lac, Early Diagnosis of Obstruction of the Ileum.
Theodore Sokow, Kenosha, Chondromatosis.
Harry R. Foerster, Milwaukee, Radiodermatitis.
Harry B. Podlasky, Milwaukee, Pathogenesis of Gastric Ulcer.

GENERAL

Annual Session of American Heart Association.—Under the chairmanship of Dr. Walter W. Hamburger, Chicago, the American Heart Association will hold its ninth annual session in Milwaukee, June 13, at the Knickerbocker Hotel. The program for the two sessions follows:

Dr. Currier McEwen, New York, Cytologic Studies of Granulomata and Exudates from Patients with Rheumatic Fever.
Dr. Edwin P. Jordan, Chicago, Importance of Allergy in Rheumatism.
Dr. Thomas Duckett Jones and Josephine McBroom, A.B., Boston, Studies on the Etiology of Rheumatic Fever.
Dr. Katharine M. Howell and Eleanor P. Burton, B.A., Chicago, Dissociation of Streptococci Obtained from Rheumatic Fever.
Drs. Otto Saphir and Simon A. Wile, Chicago, Rheumatic Manifestations in Subacute Bacterial Endocarditis in Children.
Dr. Samuel A. Levine, Boston, A Clinical Conception of Rheumatic Heart Disease.
Drs. Charles S. Stone and Harold Feil, Cleveland, Clinical and Pathological Study of One Hundred Cases of Mitral Stenosis.
Drs. Clarence E. de la Chappelle, Irving Graef and Antonio Rottino, New York, Relationship of Auricular Fibrillation to the Grade of Mitral Stenosis and the Presence of Active Rheumatic Infection.
Drs. Bernard S. Oppenheimer and Sidney P. Schwartz, New York, Paroxysmal Pulmonary Hemorrhages: The Syndrome in Young Adults with Mitral Stenosis.
Drs. Soma Weiss and David Davis, Boston, Embolic Manifestations in Rheumatic Heart Disease.
Dr. John P. Anderson, Cleveland, Electrocardiographic Findings in Experimental Pulmonary Embolism.
Drs. Arthur M. Master and Harry L. Jaffe, New York, The Heart in Rheumatic Fever and Rheumatoid (Infectious) Arthritis.
Dr. Ann P. Purdy, San Francisco, Lesions of the Kidney Associated with Rheumatic Heart Disease.
Drs. William Chester and Sidney P. Schwartz, New York, Skin Lesions in Rheumatic Fever.
Dr. Edward Sterling Nichol, Miami, Fla., Rheumatic Heart Disease in Florida.
Dr. Hugh McCulloch, St. Louis, Convalescent Care of Cardiac Children.
Drs. Thomas Duckett Jones and Edward F. Bland, Boston, The Course and Prognosis of Rheumatic Fever and Chorea.

Medical Bills in Congress.—*Bills Introduced:* S. J. Res. 45, introduced by Senator Copeland, New York, and H. J. Res. 158, introduced by Representative Eaton, New Jersey, propose to authorize an appropriation of $10,000 for the expenses of participation by the United States in the Seventh International Congress of Military Medicine and Pharmacy. S. 1292, introduced by Senator Tydings, Maryland, proposes to provide medical services after retirement on annuity to employees of the United States disabled by injuries sustained in the performance of their duties. S. 1515, introduced by Senator Copeland, New York, proposes to grant permits for the importation or manufacture for nonbeverage purposes of spirituous liquors of particular kind or quality where the supply in the United States is insufficient to meet the current need therefor. H. R. 4346, introduced by Representative Kvale, Minnesota, proposes to authorize an appropriation of $250,000 for the extension and betterment of the state sanatorium at Ah-Gwah-Ching, Minn. H. R. 4885, introduced, by request, by Representative McKeown, Oklahoma, proposes to establish a laboratory for the study of the criminal, dependent and defective classes. H. R. 5308, introduced by Representative Mead, New York, proposes to make available hospitalization and medical treatment in hospitals and relief stations of the United States Public Health Service to: (*a*) officers of documented vessels who are holders of unexpired licenses of the United States Steamboat Inspection Service; (*b*) seamen who have served forty days or more on a documented vessel during the year preceding application for hospitalization or treatment, and (*c*) seamen whose wages were diminished by reason of contributions made to the fund for the relief of sick and disabled seamen. H. R. 5326, introduced by Representative Granfield, Massachusetts, proposes to authorize an appropriation not to exceed $500,000 to erect an addition to the Veterans' Administration hospital at Northampton, Mass.

American Association for the Advancement of Science—Section N.—At the summer session of the American Association for the Advancement of Science in Chicago, June 19-23, section N (the medical sciences) will sponsor four symposiums and a public meeting. Headquarters will be at the Knickerbocker Hotel. Monday morning, June 19, the section will join with section C (chemistry) at Thorne Hall, Northwestern University, for a symposium on colloid chemistry as related to biologic problems, with the following speakers:

Edwin J. Cohn, Ph.D., Harvard Medical School, Boston, Electrostatic Forces in Systems Containing Biological Components.
Prof. Theodor Svedberg, Uppsala University, Sweden, Sedimentation Constants and Molecular Weights of the Respiratory Proteins.
Prof. Filippo Bottazzi, Naples, Italy, Physicochemical Properties of Concentrated Blood Serum.

Tuesday morning, June 20, section N will combine with section F (zoology) in a symposium with the following speakers:

Prof. Archibald V. Hill, London, England, Physical and Chemical Changes in Nerve During Activity.
Wallace O. Fenn, Ph.D., Rochester, Minn., Nerve Respiration.
Dr. Ralph W. Gerard, Chicago, Chemical Activity of Nerve.
Dr. Herbert S. Gasser, New York, Electric Phenomena in Nerve.

Wednesday morning a symposium on pathologic physiology will be held at Northwestern University, in which the following will participate:

Dr. William H. Park, New York, B C G Vaccination.
Dr. Charles H. Best, Toronto, Fatty Changes in the Liver of Normal and Diabetic Animals.
Dr. Arthur L. Tatum, Madison, Wis., Morphine Addiction and Morphine Tolerance.
Dr. Maurice B. Strauss, Boston, Etiology of Pernicious Anemia and the Related Macrocytic Anemias.

Thursday morning, June 22, a surgical-endocrinologic symposium will be presented at Northwestern by the following:

Dr. George W. Crile, Cleveland, A Century of Progress in Surgery: Anesthesia, Antisepsis and Asepsis, Shock and Careful Handling of Tissues.
Dr. Max Ballin, Detroit, Clinical Recognition and Surgical Treatment of Parathyroidism.
Dr. Percival Bailey, Chicago, Surgical Control of Hypophyseal Disorders.
Dr. John deJ. Pemberton, Rochester, Minn., Recent Developments in the Clinical Recognition and Surgical Management of Hyperfunction of the Thyroid Gland.
Dr. Evarts A. Graham, St. Louis, Clinical Recognition and Surgical Management of Hypoglycemia Produced by Tumors of the Islets of Langerhans.

It is expected that Madame Marie Curie, Paris, co-discoverer of radium, will address some of these meetings.

A public meeting celebrating a century of progress in medicine will be held Tuesday evening, June 20, in Thorne Hall. The program arranged is as follows:

Dr. Morris Fishbein, Chicago, editor, THE JOURNAL, Frontiers of Medicine.
Dr. Paul Dudley White, Boston, Heart Disease.
Dr. Max Cutler, Chicago, The Conquest of Cancer.

Changes in Status of Licensure.—The California State Board of Medical Examiners has taken action on the licenses of the following physicians in the manner and on the date indicated:

William H. McLeod, Kansas City, Mo., license revoked, March 7, for his conviction of violation of the Harrison narcotic act.
George H. Bland, Fresno, license restored, March 7; placed on five years' probation without narcotic privileges or possession, also without possession of any of the derivatives of barbituric acid. License had been revoked, Feb. 2, 1932.
Woodward B. Mayo, Los Angeles, license restored, February 27, and placed on five years' probation. License revoked, Oct. 20, 1931.
Francis M. Collier, Montrose, placed on probation for five years without narcotic possession or privileges, March 7.
Leighton R. Cornman, San Diego, license restored, February 27, and placed on probation for five years. License suspended, Oct. 19, 1932.
Theodore H. Niemann, Los Angeles, license restored, March 7, and placed on five years' probation without narcotic privileges. License revoked, July 14, 1932.
Archibald A. Atkinson, Sacramento, license restored, February 27, and placed on five years' probation without narcotic privileges. License revoked, Oct. 22, 1930.
Charles Bee Alexander, Alhambra, license restored, February 27, and placed on probation for three years without "any instructions as to narcotics, alcohol, etc." License revoked, July 12, 1932.
Charles J. Dean, Portland, Ore., license revoked, March 7, because of his conviction in Oregon of violation of bankruptcy laws.
Samuel J. Hindman, Los Angeles, license revoked, March 1, for narcotic derelictions.
Charles M. Stewart, Los Angeles, license revoked, March 1, for violation of narcotic laws.
Simon R. Zachariah, San Francisco, license revoked, March 1, for narcotic violation.

The Colorado State Board of Medical Examiners revoked the licenses of the following physicians at its meeting, April 4, for the reasons indicated:

Charles Mortimer Stewart, Los Angeles, for violation of the Harrison narcotic law.
David Gordon, Minneapolis, for violation of the Harrison narcotic law.
William L. Varnum, Manzanola, for unprofessional and dishonorable conduct. This license was restored, May 6.

The Illinois State Department of Registration and Education, Springfield, recently reported the following action:

William B. Carolus, Sterling, license revoked, March 17, and Burget Runnels, Milledgeville, license revoked, April 5, on the ground of false claims made by them in advertising matter as to their skill and the efficacy of their medicine for the treatment of specified diseases.

Joseph M. Blakemore, Chicago, license revoked, March 8, for professional connection with an unlicensed person.

Dr. Thomas J. Ney, Chicago, license revoked, January 6, on the ground of his conviction of manslaughter.

Dr. Maurice J. Rabbins, Chicago, license restored to good standing, Dec. 20, 1932; it had been suspended, April 13.

Dr. Henry Jules Milestone, Chicago, license suspended, Dec. 16, 1932, "for gross malpractice; use of narcotics and making false statements."

The Board of Regents of the University of the State of New York reported the following revocation:

Dr. William A. Robison, Medina, N. Y., license revoked, February 16, on the grounds of having committed an abortion and of fraud and deceit in the practice of medicine.

The State Board of Medical Education and Licensure of Pennsylvania reported the following:

Dr. William H. Kelsea, East Brady, Pa., license revoked, March 31, because of his conviction in Clarion County courts of having performed an illegal operation.

FOREIGN

Jewish Physicians in Germany.—The *Münchener medizinische Wochenschrift* for April 28 makes the following notations relative to the status of Jewish physicians under the Hitler régime:

"Regarding the numerous measures against Jewish physicians in the various states of Germany, no further details are noted, since it is the aim of the federal government, in its crusade against the invasion of foreigners into German medical practice [of 6,000 Berlin physicians, 4,500 are reported to be Jews], to prepare a suitable legal foundation and thus to reduce as far as possible the severity against the Jews who have ingratiated themselves to their country. A decree of this type—which will nullify many local regulations—is the decree of April 23 of the national minister of labor concerning the admittance and continuance of occupation of physicians employed by sickness insurance companies. It is made public in the newspapers *Reichsanzeiger* and *Reichsgesetzblatt* [organs for publication of federal laws]. The decree excludes all non-Aryans from future admittance to sickness insurance practice. Also physicians who have been active in the communist party will not be admitted. Non-Aryan physicians, as well as communist physicians, already admitted to sickness insurance practice must be dismissed. According to the law of rehabilitation of professional officials, exceptions are made of non-Aryan doctors who during the World War either fought at the front or were physicians at the front or at military contagious disease hospitals, or whose fathers or sons died in the war. These exceptions do not include physicians who were communists. Physicians admitted to practice before August, 1914, may be retained so far as they were not communists. Thus, the law has been changed by these new specifications. The elimination of already admitted physicians takes force on July 1, 1933, first by means of the associations of insurance physicians; however, the physicians concerned may appeal within two weeks to the federal ministry of labor, which renders the final decision; the appeal is submitted to the executive committee of the association of the physicians of Germany, which forwards it, together with an expert opinion, to the minister of labor. The physician is not permitted to decline the continuation of his activity on the grounds that his admission will terminate by the new regulation. The application for admission has to be accompanied by (*a*) certificate of birth and certificates which indicate that the applicant, as well as his parents and grandparents, are not full blooded Jews. (*b*) Non-Aryan physicians who have a right to be admitted must bring proof that their fathers or sons have died in the World War or that they have themselves participated in the World War. In this connection, proof has to be brought regarding their military or medical activity at the front or in the military hospitals. In addition to this a certificate of approbation and certificates indicating the former practical, clinical and other medical activities are to be included. The final decision in matters of admission is rendered by the arbitration office of the superior insurance office which has the physicians' register."

"Reports are on hand from Bulgaria, Belgium, Holland, Sweden, Egypt, Czechoslovakia and Rumania that all the Jewish doctors of those respective countries have united in a common boycott against German chemical preparations."

"Prof. Dr. Israel was granted a leave of absence from the Bier clinic in Berlin."

Foreign Letters

LONDON

(From Our Regular Correspondent)

April 22, 1933.

The London County Council and the Consultants and Specialists

The controversy with the London County Council in connection with the employment of consultants and specialists has entered a new phase. At a meeting at the British Medical Association house of consultants and specialists, it was resolved to ask the council of the association to take further action on behalf of the consultants in view of an offer of the Voluntary Hospitals Committee to act as mediator, and not to proceed now with the plan of withdrawal. The council considered the matter. The chief complaint of the consultants is that they were not consulted as to the details of the new scheme. The chairman of the council of the association complained of the attitude of Sir Frederick Menzies, chief medical officer of the London County Council, who described Dr. Anderson, medical secretary of the association, as fomenting "a strike campaign." Dr. Anderson was only acting on instructions from the association to establish its policy. It was claimed that in dealing with professional appointments to public hospitals the responsible authority should give the profession the opportunity of stating its views on any scheme of organization for such service. Lord Dawson, president of the Royal College of Physicians said that the position was critical. Two years ago the London County Council undertook the stupendous task of converting 100,000 beds, previously run on infirmary lines, into the status of hospital beds. An academic atmosphere had been gradually introduced into these municipal hospitals. Physicians and surgeons accustomed to teach had taken part in the work and its standard had been raised. The linkage had been brought about by free consultation between the chief medical officer of the county council and the deans of the medical schools. In this controversy it had to be remembered that the London County Council was a political body and was larger than most of the parliaments of Europe. On the instructions of the council, a letter was sent to the chairman of the Central Public Health Committee of the London County Council expressing the hope that in spite of misunderstandings it would accept the offer of a friendly conference through suitably appointed representatives with a view to a solution that would insure the widest possible field of applicants to fill positions in the service, and the greatest efficiency of the service. There is really no reason why a satisfactory understanding should not be reached.

Deaths from Injection Treatment of Varicose Veins

In a previous letter (THE JOURNAL, May 14, 1932, p. 1754) it was pointed out that the injection treatment of varicose veins is not quite so safe as is generally supposed. Pulmonary embolism has generally been the fatal complication. In reviewing 120 cases in which he had performed necropsies, Sir Bernard Spilsbury found that the injection treatment of varicose veins was the cause of death in three cases, in two of which sodium salicylate and in one of which sodium morrhuate had been injected. A little later another case was the subject of an inquest. A week after injection at the German Hospital, London, a woman, aged 62, suddenly became faint while doing her housework and died before medical aid could be summoned. The necropsy showed that the cause of death was a tubular clot in the heart. Another fatal complication of the injection treatment has now come to light. An inquest was held on two patients who died of septicemia following the injection of sodium morrhuate for varicose veins, at a hospital. They were members of a group of twelve patients who were injected at the

same time. The majority did not suffer any ill effects, but in one case an abscess developed locally. In all three cases the causal organism was Staphylococcus aureus. The source of infection could not be determined. Infection from the needles was excluded. The 5 per cent sodium morrhuate solution was made up at the hospital according to a practice followed in a series of more than 10,000 injections without incident and involved sterilizing at a temperature just below boiling in the presence of 0.5 per cent phenol. But a specimen of the solid sodium morrhuate supplied to the hospital, and sterilized there in bulk, gave a rich growth of a staphylococcus on blood agar after forty-eight hours' incubation. Possibly the sterilization in bulk presents greater difficulties than is supposed. It is stated that other cases of infection following injections of veins have occurred in other hospitals, but they have not had results to give rise to an inquiry.

Appeal to Diabetic Patients by H. G. Wells to Help Research

Asthma research in this country has been organized and financed by sufferers from the disease, which was a new departure in the promotion of research. In a letter to the *Times* Mr. H. G. Wells, the author, has invited his fellow sufferers from diabetes to follow this example. He points out that, thanks to a regulated diet and to insulin, they are living active, happy lives, while a few years ago many "would have been uncomfortable and dying slowly or already dead but for the work of a small group of experimenters and practitioners who have brought this particular maladjustment under control." He says that they can contribute to the research "that is still perfecting the very precise and beautiful treatment" and help others not so well off. The diabetic department of King's College Hospital has been carried on for some time under increasingly cramped conditions and now has a special opportunity for expansion. In 1932 it dealt with 2,472 diabetic patients and the number still increases. Mr. Wells suggests that the elect class of grateful diabetic patients should tax themselves for the benefit of the cult. He is rather surprised that they have not already formed an association to watch over and extend "this most benign branch of medical science."

The Key to the Leprosy Problem

Sir Leonard Rogers, the leading authority on leprosy, speaking at a meeting of the British Empire Relief Association, said that, if infection of children could be prevented, leprosy would die out. The value, in not too advanced cases, of injections of soluble forms of the active principle of chaulmoogra and hydrocarpus oils had now passed the realms of controversy. If the house contacts of all discovered cases were examined repeatedly for ten years to detect and clear up in the early stages—during which time the advanced cases would nearly all have become fatal—there would remain too few contagious cases to maintain the disease. The efficacy of this plan had been proved in Nauru Island in the Pacific and in the southern Sudan. In the Sudan, 6,500 cases were found in an infected area. The 4,800 infective patients were put into a colony and treated, and within the last year 2,230 had been discharged free from all signs of disease. Children were the key to the leprosy problem.

Tsetse Fly Control

The tsetse fly is still a great evil in many parts of Africa and prevents economic progress in large stretches of territory. Even in areas that are settled there is the danger that an advance of the fly may make a heavy toll of life. In extreme cases it may be necessary to evacuate the population and surrender the territory to the fly. The measures adopted for its destruction differ according to the kind of fly and even for the same fly in different districts, according to variations in the terrain and in the habits of the natives. They include destroying fly-infested bush by clearing or by fire, erection of barriers to isolate the fly and infected game, and the wholesale catching of flies by hand or in specially made traps. By these methods, considerable areas of land have been made available for occupation. The Tsetse Fly Committee is confident that in suitable areas it will be possible to eradicate tsetse flies at relatively small cost. But for this special work technical knowledge will be necessary and, where wide areas are infested, a small organization of specially trained men must be maintained.

Outbreak of Typhoid

In the Malton urban district of Yorkshire, in six weeks 235 persons, or 5 per cent of the population, contracted typhoid. The outbreak was due to pollution of the public water supply, which is derived from a local well, a source which the district council was urged forty years ago by the local government board to abandon by reason of its liability to pollution and the associated high incidence of diseases of the enteric group. On the present occasion the cause was access to the public water supply of the excreta of a typhoid patient who had been admitted to the public assistance institution, and within two months 270 persons contracted the disease and 23 died. There were no cases of typhoid in the urban district until Sept. 23, 1932, when the patient mentioned was admitted to the institution. On September 26 he was found to be suffering from typhoid, but he was not removed to an isolation hospital until October 26. His excreta were drained into the river Derwent —the common sewer of the town—by a broken drain, allowing soakage of part of its contents into the soil and polluting it with infection which gained access to the water supply. Malton had an exceptional incidence of typhoid during the seventies, eighties and nineties of the last century. It is noteworthy that this should have been repeated after such a long interval and have been due to the same vehicle. Improved sanitation is now being introduced.

PARIS

(From Our Regular Correspondent)

April 5, 1933.

Deceptive Methods in Medical Advertising

Competition between manufacturers of pharmaceutic products has led to the invention of shrewd, or even deceptive, methods for attracting the attention of physicians to their special products. Series of lectures on cancer, held in the town-halls in the provinces, and having all the appearance of a scientific course for the promotion of health, and having the endorsement of the minister of public health, have been found to be mere advertising schemes. The speaker, after a comprehensive discussion on cancer, which betrays no evidence of personal interest, ends finally with an exposition of a mode of treatment and the recommendation of a pharmaceutic specialty as an infallible remedy, whereas an investigation often reveals that the lecturer is in the secret employ of the manufacturer of this remedy. Bombarded by complaints from physicians who had attended these lectures in the department of Charente-inférieure, the prefect, on order of the minister, prohibited the continuance of the lectures. The mayors of rural communes have been instructed to refuse permission to hold lectures in municipal halls unless the lecturer agrees to abstain from all propaganda of a personal type. In another instance, the deception took a different form. A handsome young woman, tastefully attired, presented herself as a client at the consultation room of a number of dermatologists. She had come, she stated, to inquire whether the physician would be able to remove certain tattoo marks that had become displeasing to her. The tattoo marks, as was revealed when she partially disrobed, spelled out the name of a pharmaceutic product. She explained then to the practitioner that, having been cured of a lingering disease by this marvelous product, she had decided to have the name of

the product tattooed on her person as an enduring testimony of her gratitude. At the same time, she utilized her opportunity to laud the virtues of the product to the physicians. The physician smiled, told the young woman to dress, and usually sent her away without further discussion. Sometimes, however, a physician took the matter seriously and consented to remove the tattoo marks; in that case, a day was set for the operation but the young woman failed to appear. But the effect desired was produced and, in either event, the name of the product remained engraved on the mind of the physician.

Clinical Diphtheria in Some Vaccinated Persons

Cases of diphtheria arising in persons previously vaccinated against the disease are exceptional. They have been known to occur after even one year. It is assumed that the immunity conferred by the anatoxin was insufficient. The conclusion is that it is necessary to use an anatoxin with a high content of antitoxic units, and to administer rigorously, at intervals of fifteen days, the three injections required by Ramon. Mr. Scapier has recently observed two peculiar and troublesome cases. Both children had been vaccinated in a perfectly proper manner, one three months and the other five months before being taken ill. Both patients were affected with pseudomembranous angina, the diphtherial character of which was clinically evident.

The false membranes, when examined in the laboratory, did not show the presence of Löffler's bacillus either by direct examination or on cultivation. Nevertheless, in view of the significant progressive development of the symptoms, Scapier did not hesitate to administer copious injections of antitoxin, whereupon the symptoms promptly receded. In both cases the absence of Löffler's bacilli cast doubt on the diagnosis, but the success of the treatment was conclusive. Scapier raises the question: Did the Ramon anatoxin create an allergic state that prevented the development of Löffler's bacilli in their complete form but permitted nevertheless the development of the virus in a filtrable and invisible form, derived possibly from a vaccinated germ carrier, and against which the antidiphtheritic serum was able to act from a clinical point of view (it being a recognized fact that the serum does not act directly against the bacilli but against the diphtheria toxin)?

Another Method for the Diagnosis of Pregnancy

The *Presse médicale* publishes an article by R. Masciottra and R. Martinez of Hoz, which announces a simplification of the Aschheim-Zondek procedure for the early determination of pregnancy. It is based on a series of experiments, all of which were concordant, which showed that the injection of the prehypophyseal hormone into the guinea-pig, of either sex and irrespective of the dose, produces, within the first twenty-four hours, an increase of cholesterol in the blood amounting to from 30 to 50 per cent. The urine of pregnant women injected into the guinea-pig provokes exactly the same effects. The authors deduce from this fact that this reaction, which is constant, will make it possible to simplify the application of the Aschheim-Zondek test. The guinea-pig is easy to handle, and the determination of the cholesterol in its blood is easy with the Grigaut method of analysis, without its being necessary to kill the animal, as is done when the rabbit, the rat or the mouse is employed.

Exchange of Children of Physicians Dufing School Vacations

International exchanges of students between universities of different nationalities have become rather common in recent years. The Association professionnelle internationale des médecins, at its sixth annual session, in Budapest, in 1931, was requested by one of its members, Dr. Schaeftgen of Luxemburg, to assume the control of exchanges of children belonging to the families of physicians. He emphasized the value of such an exchange of children of members of one of the thirty-one national groups of which the association is composed. A physician would need to pay only the traveling expenses of the child. Furthermore, the exchange being made between physicians' families, there is less hesitancy about sending a child into a foreign country, particularly if the exchange is preceded by a questionnaire giving full information. The idea was approved by the assembly on condition that the association would not be expected to assume the responsibility but would confine itself to establishing a connection between the various national groups, who would then perfect the details. It was decided that a report should be presented, at the next session, by Dr. Schaeftgen and Dr. Drooglever Fortuyn (Netherlands), to determine the conditions to govern exchanges of children between families of physicians; also to draw up the questionnaire to be sent to each applicant, in order to determine the kind of life that would await the child at his destination. The report was presented at Budapest, at the 1932 session, and was approved. The regional groups will make known their views at the London session next September.

BERLIN

(From Our Regular Correspondent)

April 24, 1933.

Regulations Pertaining to Necropsies and Cremation

The federal minister of the interior, with a view to the enactment of a federal law governing necropsies, requested the federal bureau of health to secure from the governments of the various *länder* the regulations governing necropsies within their jurisdictions. In Prussia there are no uniform regulations. Necropsies are left to the discretion of the local authorities. It is planned to incorporate in the new federal law regulating necropsies uniform regulations governing cremation. Hitherto there have been no federal regulations governing cremation, and the laws of the *länder* are by no means uniform. A federal law pertaining to necropsies would provide that they may be performed only by licensed practitioners of medicine. The inquest, or necropsy, must establish the fact and the cause of death. If the cause of death is not certain, and if there is any suspicion that the deceased did not die a natural death, dissection of the body by the sanitary police must be ordered.

The Training of Neurologists

The Deutsche Gesellschaft für Innere Medizin requested its directorate, some time ago, to inquire into the contention of psychiatrists that neurology at the universities be taught within the psychiatric-neurologic clinic and that furthermore general neuropsychiatric departments and department heads be created in the hospitals. The *gesellschaft* urged that for historical, practical, scientific and pedagogic reasons such a one-sided solution must never prevail. Neurology, with respect to research, theory and practice, should continue to be regarded as a legitimate branch of both internal medicine and psychiatry. Taking due account of local conditions and personal qualities, both internists and psychiatrists should be allowed to practice in the field of neurology. In clinics of internal medicine and in hospital departments, neurologic services should be carefully differentiated, as is already the case in psychiatric institutions. In any event, the specialist in internal medicine and nervous diseases must continue to be recognized.

Regulations Concerning Venereal Disease in Prisons

The Federal Council on Health proposed, some time ago, regulations for combating venereal disease in prisons, and they have been generally adopted by the *länder*. The provisions stipulate that a prisoner with a venereal disease, even though it may not at present show any clinical manifestations, must

accept the treatment that his condition requires. In case such treatment cannot be administered in that institution, the prisoner should be transferred to a suitable institution or hospital. Infective patients must be hospitalized under conditions that exclude transmission of the disease to others. Utensils used by the patient should be marked and restricted to the patient's use. Before the patient is released, he should be reexamined, if possible, to determine whether he is still infective, and, if so, his case should be reported to the health authorities.

Sex Instruction in the Schools

The Badische Gesellschaft für soziale Hygiene recently called a conference of teachers, pastors and physicians, who, after deliberation, set up the following criteria:

1. Sex instruction in the schools shall be extended to pupils 15 to 16 years of age and to corresponding age groups of the continuation, industrial and trade schools.
2. The subjects covered by the instruction shall be: (*a*) the relation between the sexual instinct and morality, with especial emphasis on personal and social responsibilities; (*b*) the biologic aspects of propagation, and (*c*) the connection between sexual instincts and health hazards.
3. Instruction in these subjects shall be delegated to the physician. If a suitable woman physician is available, she should be given charge of sex instruction for girls.
4. Sex instruction should be given in connection with discussions on general hygienic problems, in organized classes but not in too large groups. The instruction should cover a period of about two hours and should form a part of the regular curriculum.

Professor Wagenmann's Birthday

On April 5, Prof. August Wagenmann, occupant of the chair of ophthalmology at the University of Heidelberg, celebrated his seventieth birthday. In his native city, Göttingen, Wagenmann became an assistant under Theodor Leber. In 1892 he accepted a chair in the University of Jena, where he remained eighteen years, and in 1910 became Leber's successor in Heidelberg. Wagenmann's research has been chiefly in the field of pathologic anatomy. For his research on the results of division of the optic nerve, Wagenmann was awarded the Graefe prize. He published also a comprehensive work on injuries of the eye, with especial reference to injuries due to accidents. For many years, Wagenmann was secretary of the Deutsche ophthalmologische Gesellschaft, of which he is now president.

Personals

Prof. August Gärtner, the dean of German hygienists, celebrated in Jena his eighty-fifth birthday, April 18. Like so many German scientists, he received his first training at the military medical school. In 1884, he was summoned to the federal bureau of health as assistant to Robert Koch. Two years later, he obtained the chair of hygiene at the University of Jena, which he retained until 1914. He carried on scientific studies in many fields; a dysentery bacillus bears his name, but it was in the field of water hygiene that he became an eminent authority, his opinions being often sought by foreign countries.

Prof. Alfred Denker, an authority in laryngology, rhinology and otology, and for many years ordinarius at the University of Halle, now residing in Munich, completed his seventieth year, April 19. Professor Denker achieved fame through research on deafness, deafmutism and education of deafmutes. He introduced also new operative methods for chronic suppurations of the maxillary sinus, and for tumors of the nose and of the hypophysis.

Prof. Roderich Stintzing Is Dead

Geheimer Medizinalrat Roderich Stantzing, who from 1890 to 1924 was the director of the medical University Clinic in Jena, died, April 6, aged 79. In collaboration with Pentzold he published the "Handbuch der gesamten Therapie," which has passed through six editions and to which Stintzing contributed a number of important chapters. He prepared also a new edition of Roth's "Klinische Terminologie."

JAPAN

(From Our Regular Correspondent)

March 29, 1933.

Awards to Scientists

At the general meeting of the Imperial Academy of Japan, February 12, the special committee announced the awards of the imperial prizes and others for 1932. The imperial prizes were given to Dr. J. Tsuji of the Physical and Chemical Research Institute for his researches on the elasticity of light, and to Prof. B. Suzuki, D.Sc., of the Kyoto Imperial University for his work on fatty acids. The academy prize was awarded to Prof. M. Ishimoto of the Tokyo Imperial University science department for his seismological observations. The emperor's wedding commemoration prize, contributed by the Osaka *Mainichi* (daily paper) was given to Prof. S. Kusano, D.Sc., of the Tokyo Imperial University for his work on fungi, to Prof. C. Oguchi, D.M., of the Nagoya Medical College for his research on Oguchi's disease, to Prof. Y. Furutake, D.M., of the Osaka Imperial University for his discovery of kynurenin, a crystal chemical compound, and to Prof. H. Nomura, D.Sc., of the Sendai University for his study on the pungency of ginger.

Studies of Menstruation in Working Girls

Dr. Y. Sato has been studying for a long time the physical and mental condition of young girls who work as conductors of motor busses. The municipal tramcar bureau of Tokyo, in 1924, inaugurated the omnibus service in the capital and ever since has employed about 700 single girls as conductors. They work from 6 in the morning to eight in the evening, one drive covering 10 miles or so, which they do seven or eight times a day. Sato, a physician on the staff of the hospital attached to the municipal bureau, studied the duration of menstruation of 220 of these girls who came to his office to consult about diseases of women. They were from 17.3 to 32.2 years of age.

Menstruation in Working Girls

Duration of Menstruation	Number of Girls	Percentage
8-10 days	6	2.73
7 days	67	30.45
6 days	8	3.64
5 days	34	15.45
4 days	47	21.36
3 days	40	18.18
2-1 days	5	2.27
0 days	13	5.91

Since they began this bus work, among 140 girls examined, 24 girls had an increased flow while 12 had a decreased flow; 15 menstruated a longer time and 22 for a shorter time; 59 had more pain, while 3 stopped having pain. These changes occurred mostly from four to six months after they were employed, but gradually these changes disappeared and they menstruated as formerly.

Decrease in Medical Students

The entrance examinations for medical and pharmaceutic colleges were held as usual, this month, throughout the country. The number of candidates was considerably smaller, to the astonishment of the authorities. Last year some private colleges were charged with accepting bribes from candidates for entrance. At that time the education office said it would supervise the examinations more closely. The decrease in the number of candidates is attributed partly to this and partly to the business depression. One pharmaceutic college that was censured last year had only 660 candidates this year, as compared to more than 1,200 in the previous year. Of the eight private medical colleges and two pharmaceutic colleges in Tokyo, the Keio Medical College had an increase of only ninety this year, but the rest had a decrease.

BUCHAREST

(From Our Regular Correspondent)

March 31, 1933.

Draft of the New Law on Social Insurance

In the new Rumania there are three systems of social insurance: one in Transylvania, by which system all districts comprising two or three counties have autonomous organizations; another system in the old kingdom, and the third one in Bessarabia. The government has not as yet interfered with the administration of the three organizations. Now a new law has been drafted to unify the three systems. The principal paragraphs of the proposed law are as follows:

Compulsory insurance is ordained for all classes of employees for sickness, invalidity and accidents, without regard to their age, sex or nationality, if their wages do not exceed the fixed maximum. Also independent craftsmen may become insured under special conditions enumerated in the law. The restrictions are as follows: The employees of state enterprises who were insured by their own special benefit societies before this law is enacted may continue this insurance with their societies, provided the benefits supplied by them are at least as much as is required by the new law. For this reason these special societies are obliged to have their regulations approved by the central board of social insurance. Apprentices and unpaid probationers, also members of the families of employers, must be insured. The pay office in Transylvania and the Banat will merge and their members continue to avail themselves of the insurance corresponding to the requirements of the law. The employees of the state, counties, municipalities or other public institution, to whom the general pension law does not refer, are obliged to take out insurance against sickness and invalidity. Employees of the foregoing public institutions who have no pension are not obliged to be insured for old age and invalidity. The latter categories of employees may apply to the central board of social insurance for permission to be insured against sickness, but only under special contracts made with their organizations.

The insured are entitled to medical attendance, drugs and dressing materials; a monetary subsidy in case of sickness, accidents, maternity and death, and a whole or partial invalidity pension. Medical treatment is extended also to a wife living with her husband, to children under 16 years of age, and to disabled parents. If hospital treatment is needed, the insurance office pays for attendance up to twenty-six weeks, but the insurance council may lengthen this period to one year at most.

If financial conditions permit, the office may pay the cost to members of sojourns at climatic resorts and mineral springs, and of dental prostheses. Relatives get drugs only. A monetary subsidy is paid for twenty-six weeks only.

Maternity help is given to an insured person for twelve weeks; the sum of the subsidy is equal to that allowed in case of sickness. After this, the mother is entitled to a six weeks nursing subsidy. The wife of an insured person is entitled, in case of childbirth, only to free medical attendance and drugs; but if the financial condition of the insurance office allows, she may get 50 per cent of the subsidy, due to her husband, for six weeks.

An invalidity pension is granted to members who, owing to old age, accident or sickness, are not able to earn one third of what they earned when in full health. The pension consists of a fixed sum. Pensioners get free medical attendance and drugs; in case of death, the relatives get a burial subsidy. The wife of a deceased pensioner, if disabled and poor, gets 50 per cent of the pension of her late husband; children under 16 get one third of the pension of their late parents. The sum total of the pension of the widowed mother and orphan children cannot exceed the sum of the pension which the father received.

Half of the charges for insurance have to be paid by the employer and half by the employee. The weekly charges are fixed by the general meeting of the central office and has to be sanctioned also by the council of ministers. The state contributes to the invalidity burden 15,000,000 lei yearly and later will add some state obligations and treasury notes, the amount to be fixed at a later date.

SICK BENEFIT CLUBS

Not less than 10,000 members may form a sick benefit club in any one district. The sick benefit clubs are administered as follows: A council, consisting of from twelve to twenty-four members with an equal number of employers and employees, is appointed on the recommendation of the chamber of commerce and trade and the chamber of work, by the minister of public works. The minister appoints three members, consisting of one physician, one engineer and one lawyer. The council prepares the budget, settles affairs pertaining to its sphere of action, and appoints clerks and an auxiliary medical staff. The control committee manages the agenda of the general meeting and the finances. The medical committee, of from three to seven members, has as its president the physician-in-chief, who gives advice in medical affairs.

The central sick benefit club controls the other clubs and handles the funds. Its personnel is made up of the general assembly, the administrative council and the general management. The general assembly is made up as follows: The administrative council of every club delegates two employers and two employees; if a club has more than 25,000 members, it delegates four members. All the late ministers of public work are members. The manufacturers, craftsmen, employees, physicians, pharmacists, engineers and so on, in all eleven such groups, contribute nineteen members. The national medical association is represented by two members. The professor of social politics at Bucharest University is a member. The ministries supply ten members. Two senators are delegated by the senate, to hold office for four years. The general assembly expresses its opinion on drafts of bills, determines the maximal wages for those intending to be insured, determines the categories of subsidies, and elects the administrative council and the executive committee.

THE MEDICAL ORGANIZATION

The Medical organization of the social insurance scheme comprises the following medical categories: (*a*) Physicians of the central institutions, the physicians-in-chief and medical inspectors of the sick benefit clubs, who are in the same category as the physicians of the public health directorate. The chief physicians of the social insurance in regard to salary are on a par with the medical chiefs of the county. Hospital physicians, radiologists, bacteriologists and pharmacists get the same salaries as those appointed by the public health directorate. (*b*) Hospital and sanatorium physicians, likewise the chief physicians of the outdoor departments, radiologists, bacteriologists and specialists, who attain their position by competitive examinations. (*c*) Assistant physicians, who get their appointments by entrance examinations. In case of epidemics, contract physicians may be employed. In larger centers on the request of the directorate of the respective sick benefit clubs, "free choice" medical service can be had. The minister has the right to suspend the execution of any resolution.

PUNISHMENT

Fines ranging from 2,000 to 10,000 lei and imprisonment from fifteen days to two months may be imposed on employers, clerks or physicians who issue false documents and certificates. In the case of physicians, a decision can be made only by the medical councils.

The Association of Balkan Physicians

The physicians of Yugoslavia, Bulgaria, Greece and Rumania have found an association to further medical science. The

Rumanian section held its constitutional meeting last week, under the presidency of professor Marinescu of the Bucharest university. The main point for discussion was the request of the association for cooperation in regard to the prophylaxis of tuberculosis and malaria. The Rumanian section accepted the principles of the union. The secretary of the Rumanian section occupies the house of the Rumanian Medical Association, Bucharest, Strada Isvor No. 16.

Public Health in Rumania

According to statistics published by the ministry of health in 1932, 80,000 persons with open tuberculosis are on the register, the majority of whom are in special hospitals. Those in their homes are periodically supervised by the nearest dispensary medical officer. Of 20,000 trachoma patients registered, 10,000 are in Bessarabia. The number of registered pellagra patients in the past year was 47,872. The fight against these diseases cost 20 million lei last year.

BUENOS AIRES

(From Our Regular Correspondent)

March 1, 1933.

Can Rats Survive After Suprarenalectomy?

Ever since Lewis demonstrated in 1921 that the majority of white rats survive the complete removal of the suprarenals, the fact has been confirmed in hundreds of rats at Buenos Aires and in Rosario. Nevertheless, experiments recently performed by some American workers led to different results. The survival or death of the rats depends on the nutritional condition of the animals when the experiment is done. Rats bred at the Instituto de Fisiología of Buenos Aires and Rosario and fed on bread and milk survive at a rate of from 50 to 100 per cent at the end of the first month after suprarenalectomy, while rats recently brought from some other breeding places and deprived of their suprarenals at the same time die at a rate of from 70 to 100 per cent in the first month following the operation. However, if the rats brought from some other breeding places are kept and fed at the Instituto de Fisiología for a month or so before the operation and if the animals have not infected lungs, they survive the operation in a rate of from 50 to 100 per cent. The symptoms of suprarenal insufficiency of the surviving animals last about three weeks. Then the animals slowly and gradually compensate. The grave symptoms following suprarenalectomy disappear on the administration of extract of the suprarenal cortex. In the entire group of surviving animals, accessory suprarenals appear at the end of the first month or a month and a half after suprarenalectomy has been performed. During the first fifteen days following the operation the accessory suprarenals are not discoverable, but later on they appear, a fact that was pointed out last year by Lascano González.

Scholarships for Graduate Studies

Dr. Rodolfo Lobo was awarded the scholarship given by the Devoto Foundation, for 1932, to study toxicology in Europe. Drs. Odoríz and Castro O'Connor were awarded the scholarships recently created by the Prince of Wales at the Oxford University to study physiology of the nervous system and endocrinology, respectively. Dr. J. Cid of Rosario was awarded one of the Guggenheim scholarships for 1932, in the United States, to study histopathology of tumors of the nervous system. Dr. Orías returned from the United States after a stay of two years at Western Reserve, Harvard and Woods Hole and other research centers in the United States. Dr. J. M. Lascano González will soon return from Freiburg after working two years and a half with Professor Aschoff. Dr. Orías was awarded a scholarship of the University of Buenos Aires and another scholarship of the Rockefeller Foundation.

Treatment of Hydrocyanic Acid Poisoning

Dr. Hug, professor of pharmacology of the Faculty of Medicine of Rosario, has reported the results of experiments which tend to elucidate the mechanism of the treatment of hydrocyanic acid poisoning. Reports of his experiments performed during the last three years have been published in the *Revista de la Sociedad argentina de biología* and other medical journals. According to Professor Hug, the substances capable of action on hydrocyanic acid may be classified into three groups: substances that contain sulphur, sugars and their derivatives, and methemoglobin-producing substances. In the first group are sodium thiosulphate, glutathione, cystine and some other substances; the most active substance seems to be sodium tetrathiocyanate, which, according to work performed by Chistoni and Foresti, is capable of transforming in vitro cyanides into sulphocyanides. While the second group has not been as yet studied by the author, according to experiments by Forst and Rentz it seems that preference should be given to dioxyacetone. In the third group the best results were obtained with sodium nitrite. To prove the therapeutic value of these substances, dogs were injected subcutaneously with progressive doses of hydrocyanic acid. As soon as the first grave symptoms of hydrocyanic intoxication appeared, the animals were given an injection of a solution of the antidote intravenously. Four antidotes were tested and the results obtained were as follows:

Dogs given an intravenous injection of sodium thiosulphate, sodium tetrathyocyanate, methylene blue or sodium nitrite, in doses of 1 or 1.5 Gm., 0.2 Gm., 18 mg and 40 mg., respectively, per kilogram of body weight, at the appearance of toxic symptoms caused by the subcutaneous injection of 1.27, 3, 2 or 4 fatal doses of hydrocyanic acid, respectively, did not die in the experiment. Larger doses than 0.2 Gm. per kilogram of body weight of sodium tetrathiocyanate are toxic. Pyrogallol, pyrocatechin, phenylhydrazine and potassium ferrocyanide are also methemoglobin-producing substances. Potassium ferrocyanide, however, has an antidotal action only when in presence of laked corpuscles, since it does not permeate the erythrocytes. Professor Hug at present gives his greatest attention to methemoglobin-producing substances. He has been able to note that the hemoglobin derivatives that are formed with various substances do not fix hydrocyanic acid in the same manner in which methemoglobin forming substances do. Methemoglobin formed by sodium nitrite fixes hydrocyanic acid in an equimolecular proportion (taking 16,700 as the molecular weight of hemoglobin). According to the author, the fundamental reason for the neutralization of the poison by these substances is the fixation of the hydrocyanic acid by the methemoglobin in the blood. The limitation of the antidotal activity of sodium nitrite depends on the maximal quantity of hemoglobin changeable to methemoglobin, without killing the animal by anoxemia. In the dog, a dose of 40 mg. of sodium nitrite per kilogram of body weight is the maximal dose, and this may kill the animal in some cases. This dose changes more than 50 per cent of the hemoglobin into methemoglobin. These studies indicate that the almost simultaneous administration of antidotes of the different groups may result in a summation of effects. Hug notes the excellent results reported by Geiger and by Hanzlik in THE JOURNAL (Dec. 3, 1932, p. 1944; Feb. 4, 1933, p. 357) from the use of methylene blue as an antidote. He believes that his experiments indicate that the results obtained with sodium nitrite ought to be even better. Since the tolerance of man to sodium nitrite is not yet known, the author advises the slow injection of a 20 per cent solution, not to exceed the total dose of 1 Gm. (50 cc. of this solution) for an adult. The author advises the alternate use of injection of sodium nitrite with intravenous injections of 10 cc. of a 3 per cent solution of sodium thiosulphate.

Marriages

CHARLES HOWARD KINGSBURY, Gillett, Wis., to Miss Grace Campbell of Milwaukee in Chicago, April 13.

HERBERT RICHARDSON DOVE, Colonial Heights, S. C., to Miss Helen Turner of Spartanburg, April 8.

BEN W. BIRD, JR., Princeton, W. Va., to Miss Lucile Dunlap of Cairo, Ill., April 9.

WILLIAM HOBSON WOODY to Miss Sarah Anne Mellier, both of Baltimore, April 24.

ROBERT LOUIS LEE, Kansas City, Kan., to Miss Robbie Archer at Turner, March 4.

Deaths

Henry Andrews Cotton ⊕ Lawrenceville, N. J.; University of Maryland School of Medicine, Baltimore, 1899; member of the House of Delegates of the American Medical Association, 1921-1922; member of the American Neurological Association, American Psychiatric Association, New England Society of Psychiatry, Association for Research in Nervous and Mental Diseases, American Psychopathological Association and the Society of American Bacteriologists; veteran of the Spanish-American and World wars; corresponding member of the British Medico-Psychological Society; for many years medical director of the New Jersey State Hospital, Trenton; author of "Defective, Delinquent and Insane"; aged 56; died, May 8, in Trenton, of angina pectoris and coronary embolism.

Byron Bennett Davis ⊕ Omaha; Minnesota Hospital College, Minneapolis, 1884; member of the House of Delegates of the American Medical Association in 1902; professor of principles of surgery and clinical surgery and chairman of the department, University of Nebraska College of Medicine; past president of the Nebraska State Medical Association; member and past president of the Western Surgical Association; on the staffs of the Immanuel Deaconess Institute, Bishop Clarkson Memorial and the Nebraska Methodist Episcopal hospitals; aged 73; died, April 20, of carcinoma of the colon.

Cyrenus G. Darling, Ann Arbor, Mich.; University of Michigan Medical School, Ann Arbor, 1881; member and past president of the Michigan State Medical Society; fellow of the American College of Surgeons; formerly professor of surgery at his alma mater; for four years acting dean of the dental college of the University of Michigan; at one time mayor of Ann Arbor; for many years chief of staff at St. Joseph's Mercy Hospital; aged 77; died, April 21, of pernicious anemia.

Henry Joseph Scherck ⊕ St. Louis; Tulane University of Louisiana Medical Department, New Orleans, 1889; member of the American Urological Association; fellow of the American College of Surgeons; assistant professor of urology, St. Louis University School of Medicine; aged 65; on the staffs of the Missouri Pacific Hospital, St. Louis City Hospital, Jewish Home for Chronic Invalids and the Jewish Hospital, where he died, March 29, of heart disease.

Philip Webb Davis ⊕ Portland, Maine; Medical School of Maine, Portland, 1900; secretary of the Maine Medical Association; fellow of the American College of Surgeons; served during the World War; for twenty-seven years member of the staff of the Maine General Hospital; editor of the *Maine Medical Journal;* aged 57; was drowned, April 26, when the automobile which he was driving crashed through the wooden railing of a narrow bridge.

Alphonso David Rockwell, Flushing, N. Y.; Bellevue Hospital Medical College, New York, 1864; professor of electrotherapeutics, New York Post-Graduate School of Medicine, 1888-1892; past president of the American Electro-Therapeutic Association; Civil War veteran; neurologist and electrotherapeutist to the Flushing Hospital, 1904-1912; author of "Relation of Electricity to Medicine and Surgery," and other works; aged 92; died, April 12.

Nathan Sturges Jarvis, Major, U. S. Army, retired, New York; Bellevue Hospital Medical College, 1884; entered the army as an assistant surgeon in 1887; veteran of the Spanish-American War; was retired in 1901 for disability in pursuance of a special act of Congress; returned to active duty in 1901; served during the World War; retired as a major in 1930; aged 72; died, April 20, of angina pectoris.

Winthrop Essex McGinley, New London, Conn.; College of Physicians and Surgeons, Baltimore, 1914; member of the Connecticut State Medical Society; past president and secretary of the New London County Medical Society; served during the World War; on the staff of the Lawrence and Memorial Associated Hospitals; aged 47; died suddenly, April 27, in Waterford, of heart disease.

William Wertenbaker ⊕ Wilmington, Del.; University of Virginia Department of Medicine, Charlottesville, 1901; fellow of the American College of Surgeons; gynecologist and obstetrician to St. Francis and Wilmington General hospitals; gynecologist to the Delaware State Hospital, Farnhurst; consultant on the surgical staff of the Kent General Hospital, Dover; aged 57; died, March 24.

Jere Williams Lord ⊕ Baltimore; University of Pennsylvania School of Medicine, Philadelphia, 1887; for many years clinical professor of dermatology, Johns Hopkins University School of Medicine; aged 69; on the staffs of the Johns Hopkins Hospital and the Union Memorial Hospital, where he died, April 23, of diverticulitis, fecal fistula and abdominal abscess.

Lon West Haynes, Detroit; University of Michigan Medical School, Ann Arbor, 1908; member of the Michigan State Medical Society; fellow of the American College of Surgeons; aged 49; on the staffs of the Receiving Hospital, Herman Kiefer Hospital and the Harper Hospital, where he died, April 19, of coronary thrombosis.

John J. Rooks, Grand Rapids, Mich.; Grand Rapids Medical College, 1901; College of Physicians and Surgeons of Chicago, School of Medicine of the University of Illinois, 1902; member of the Michigan State Medical Society; on the staff of St. Mary's Hospital; aged 55; died suddenly, April 17, of coronary thrombosis.

George W. McAllister ⊕ Hampton, Va.; University College of Medicine, Richmond, 1899; fellow of the American College of Surgeons; on the staff of the Hampton Training School for Nurses and Dixie Hospital; aged 56; died, March 30, of acute nephritis, paresis and therapeutic quartan malaria.

Edwin H. Underwood ⊕ Fort Wayne, Ind.; Hahnemann Medical College and Hospital, Chicago, 1905; served during the World War; aged 61; on the staff of the Lutheran Hospital, where he died, April 3, of septicemia, following a slight wound from an instrument, incurred while treating a patient.

James Fleming Musser, Calvin, Okla.; Chicago College of Medicine and Surgery, 1912; member of the Oklahoma State Medical Association; served during the World War; aged 48; died, April 17, in a hospital at Holdenville, of injuries received when his automobile overturned.

Mae Lichtenwalner-Myers ⊕ Philadelphia; Woman's Medical College of Pennsylvania, Philadelphia, 1905; professor of histology and embryology at her alma mater; member of the American Association of Anatomists; aged 50; died, April 28, in the Woman's Hospital, of heart disease.

Alexander H. Stewart ⊕ Lawton, Okla.; Medical College of Ohio, Cincinnati, 1882; president of the Comanche County Medical Society; veteran of the Spanish-American War; formerly member of the state legislature of Kentucky; aged 80; died, April 10, of cerebral hemorrhage.

William James Wolfe, Chatham, N. J.; University of the City of New York Medical Department, 1884; member of the Medical Society of New Jersey; past president of the Morris County Medical Society; formerly postmaster; aged 73; died, March 31, of pulmonary edema.

William Archibald Young, Toronto, Ont., Canada; Victoria University Medical Department, Coburg, 1886; L.R.C.P., London, 1887; for thirty-five years coroner for the city of Toronto; editor of the *Canadian Journal of Medicine and Surgery;* aged 66; died, April 1.

William Bulger Johnson, Birmingham, Ala.; University of the South Medical Department, Sewanee, Tenn., 1905; member of the Medical Association of the State of Alabama; aged 53; died suddenly, March 26, at Blount Springs, of chronic endocarditis and myocarditis.

Harrison Murray Crittenden, Haverhill, Mass.; Tufts College Medical School, Boston, 1898; member of the Massachusetts Medical Society; aged 58; on the staff of the General Stephen Henry Gale Hospital, where he died, April 5, of pulmonary embolism.

Benjamin Franklin Roller, Chicago; University of Pennsylvania School of Medicine, Philadelphia, 1902; member of the Medical Society of the State of New York, and the Illinois State Medical Society; aged 56; died, April 20, in the Doctor's Hospital, of pneumonia.

Rayburn B. Smith ⊕ Alma, Mich.; Saginaw (Mich.) Valley Medical College, 1903; formerly bank president and mayor of Alma; for eight years president of the school board; aged 51; died, April 21, in the Saginaw General Hospital, of typhoid.

Valerian Albert Miller ⊕ Lake Arthur, La.; Vanderbilt University School of Medicine, Nashville, Tenn., 1895; past president of the Jeff-Davis Parish Medical Society; for twelve years coroner of Davis Parish; aged 60; died, April 18, of heart disease.

Eugene McDowell Trabue, Louisville, Ky.; University of Louisville School of Medicine, 1915; served during the World War; chief of the tuberculosis unit of the medical staff of the Veterans' Administration; aged 43; died, April 8, of heart disease.

Mendel Emmanuel Jonessoff, New York; University of Paris Faculty of Medicine, Paris, France, 1900; member of the Medical Society of the State of New York; aged 64; died, April 4, in the French Hospital of angina pectoris and arthritis.

James Philip Hatfield, Wheat, Tenn.; Lincoln Memorial University Medical Department, Knoxville, 1912; member of the Tennessee State Medical Association; aged 50; died, April 7, in Knoxville (Tenn.) General Hospital, of cerebral hemorrhage.

Charles Hawkins Gilmour, Toronto, Ont., Canada; University of Toronto Faculty of Medicine, 1903; fellow of the American College of Surgeons; served during the World War; on the staff of the Grace Hospital; aged 53; died, April 20.

Leverette Herbert Price, Moncton, N. B., Canada; Bellevue Hospital Medical College, 1892; member and past president of the Council of Physicians and Surgeons of New Brunswick; aged 65; died, March 1, in the City Hospital.

Arthur P. Ginn, Nebraska City, Neb.; University of Vermont College of Medicine, Burlington, 1883; past president and secretary of the Otoe County Medical Society; aged 71; died, April 4, in Los Angeles, of cerebral hemorrhage.

Frank Peter Stedem, Champaign, Ill.; Eclectic Medical Institute, Cincinnati, 1899; served during the World War; formerly mayor and member of the board of health of Saybrook; aged 68; died, April 14, of cerebral hemorrhage.

Emmett L. Robinson, Lincoln, Neb.; College of Physicians and Surgeons, Keokuk, Iowa, 1878; also a pharmacist; formerly member and secretary of the school board of Central City; aged 82; died, April 9, of perforated gastric ulcer.

Wyman Smith, Minneapolis; Northwestern University Medical School, Chicago, 1931; member of the Minnesota State Medical Association; aged 29; on the staff of St. Barnabas Hospital, where he died, April 20, of septicemia.

Henry House Beers, New York; University of Vermont College of Medicine, Burlington, 1901; consulting ophthalmologist to the Rockaway Beach (N. Y.) Hospital; aged 57; died, April 23, of carcinoma of the left lung and liver.

Clyde F. Johnson, Seymour, Texas; Hospital College of Medicine, Louisville, Ky., 1901; member of the State Medical Association of Texas; aged 63; on the staff of the Baylor County Hospital, where he died, April 6, of peritonitis.

George M. Waterhouse, Weiser, Idaho; Eclectic Medical Institute, Cincinnati, 1885; Barnes Medical College, St. Louis, 1899; member of the Idaho State Medical Association; aged 72; died, March 6, in St. Luke's Hospital, Boise.

Frederick Church Jacobson, Newark, N. J.; Medical Department of the University of the City of New York, 1894; member of the Medical Society of New Jersey; aged 64; died, April 11, of carcinoma of the bladder and prostate.

Solomon Nathan Rosenbaum, New York; Medical Department of the University of the City of New York, 1895; member of the Medical Society of the State of New York; aged 73; died, April 2, of cerebral thrombosis.

Joseph G. Russell, Salem, N. Y.; Hahnemann Medical College and Hospital, Chicago, 1879; aged 74; died, April 10, in the Dover (N. J.) General Hospital, of a skull fracture received when he was struck by an automobile.

Charles B. Dreher, Tamaqua, Pa.; Homeopathic Medical College of Pennsylvania, Philadelphia, 1867; for many years bank president and formerly secretary of the school board; aged 87; died, April 7, of cerebral thrombosis.

Ignatz David Loewy, Whipple, Ariz.; Jefferson Medical College of Philadelphia, 1903; on the staff of the Veterans Administration Hospital; aged 52; died, April 10, of tuberculosis of the lungs and tumor of the brain.

Nathaniel Albert Nicholson, Back Bay, Va.; University College of Medicine, Richmond, 1901; member of the Medical Society of Virginia; aged 52; died, April 3, in St. Vincent's Hospital, Norfolk, of tumor of the brain.

Thomas Leiper Kane, Chicago; School of Medicine of the Division of the Biological Sciences of the University of Chicago, 1932; aged 29; died, April 13, in the Billings Memorial Hospital, of streptococcic meningitis.

John Joseph Smith, Dallas, Texas; Baylor University College of Medicine, Dallas, 1916; member of the State Medical Association of Texas; aged 56; died, March 21, in a local hospital, of carcinoma of the thyroid.

George Crofton Enright, Yonkers, N. Y.; University of Vermont College of Medicine, Burlington, 1903; member of the Medical Society of the State of New York; aged 57; died, April 12, of cerebral hemorrhage.

Samuel W. Gadd, Philadelphia; University of Pennsylvania School of Medicine, Philadelphia, 1885; member of the Medical Society of the State of Pennsylvania; aged 74; died, April 10, of coronary thrombosis.

Charles Menzies Briggs, Fairport, N. Y.; University of Buffalo School of Medicine, 1880; member of the Medical Society of the State of New York; aged 77; died, April 3, in the Rochester General Hospital.

Milton Walton ⊕ Hastings, Fla.; Memphis (Tenn.) Hospital Medical College, 1904; president of St. Johns County Medical Society; served during the World War; aged 51; died, April 23, of heart disease.

John E. Minney, Altadena, Calif.; Kansas City (Mo.) Medical College, 1880; formerly dean and professor of ophthalmology and otology, Kansas Medical College, Topeka; aged 87; died, April 7, of pyonephrosis.

John Chisholm Breedlove, Muldrow, Okla.; Washington University School of Medicine, St. Louis, 1908; member of the Arkansas Medical Society; aged 49; died suddenly, April 14, of heart disease.

George C. Traugh ⊕ Donora, Pa.; National Normal University College of Medicine, Lebanon, Ohio, 1896; also a preacher and lawyer; aged 69; died suddenly, March 30, of acute myocarditis.

Nellie Florence Moore Hegardt, Los Angeles; College of Physicians and Surgeons, Los Angeles, 1914; aged 63; died, March 9, of sarcoma of the orbit, sternum and ribs, and intestinal obstruction.

Percy F. Houghton, Brooklyn; Georgetown University School of Medicine, Washington, D. C., 1901; served during the World War; aged 57; died, April 14, in St. Catherine's Hospital, of goiter.

Charles John Loizeaux, Des Moines, Iowa; State University of Iowa College of Homeopathic Medicine, Iowa City, 1889; aged 84; died, April 1, of cerebral hemorrhage and arteriosclerosis.

George William Fegers, Nebraska City, Neb.; Keokuk (Iowa) Medical College, 1896; member of the Nebraska State Medical Association; aged 59; died suddenly, March 31, of angina pectoris.

James Madison Wellborn, Rock Springs, Ga.; Chattanooga (Tenn.) Medical College, 1893; served during the World War; aged 64; died, April 6, in the Erlanger Hospital, Chattanooga.

Chauncey Centus Way, Muskogee, Okla.; Chicago Homeopathic Medical College, 1904; Hahnemann Medical College and Hospital, Chicago, 1905; aged 56; died, February 6, of lobar pneumonia.

Robert Pearl Woods ⊕ Oak Hill, W. Va.; College of Physicians and Surgeons, Baltimore, 1913; medical superintendent of the Oak Hill Hospital; aged 47; died, April 16, of pneumonia.

Wilbur Mason Warner, Middletown, Ohio; Pulte Medical College, Cincinnati, 1897; member of the Ohio State Medical Association; aged 64; died, April 11, of carcinoma of the bladder.

Edward Grant May, Toledo, Ohio; Northwestern Ohio Medical College, Toledo, 1887; served during the World War; aged 68; died, April 8, in St. Vincent's Hospital, of pneumonia.

Frederick Fobes Doggett, Boston; Harvard University Medical School, Boston, 1880; member of the Massachusetts Medical Society; aged 78; died, April 13, of chronic nephritis.

John Copps Bowker, Lawrence, Mass.; Medical School of Maine, Portland, 1884; aged 71; died, April 20, at St. Petersburg, Fla., of injuries received when he fell in a bath tub.

Emil Besser, Remington, Ind.; Chicago Homeopathic Medical College, 1899; member of the Indiana State Medical Association; aged 65; died, April 14, of pneumonia.

Hugh Lownds Appleton, Gadsden, Ala.; Vanderbilt University School of Medicine, Nashville, Tenn., 1892; aged 67; died, April 16, of pyemia and abscess of the lung.

John A. White ⊕ Indianapolis; University of Georgia Medical Department, Augusta, 1915; served during the World War; aged 44; died, April 9, of heart disease.

Harvey J. Churchill, Pekin, Ill.; National Homeopathic Medical College, Chicago, 1893; aged 85; died, April 14, in Los Angeles, of complications resulting from a fall.

Walter C. Skiff ⊕ New Haven, Conn.; New York Homeopathic Medical College, 1883; aged 75; died, April 23, of coronary thrombosis, edema and myocarditis.

Charles A. Reed, New Castle, Pa.; Miami Medical College, Cincinnati, 1885; member of the Medical Society of the State of Pennsylvania; aged 75; died, February 23.

Robert Allen Gamble, Petersburg, Va.; St. Louis College of Physicians and Surgeons, 1896; aged 59; was instantly killed, April 14, in an automobile accident.

George Winters Herbein, San Francisco; Jefferson Medical College of Philadelphia, 1902; aged 62; died, March 9, in St. John's Hospital, of pernicious anemia.

Horace Leon Cunningham ⊕ Acmar, Ala.; Vanderbilt University School of Medicine, Nashville, Tenn., 1910; aged 49; died, in April, of coronary occlusion.

John Christian Martin, Kansas City, Mo.; University of Louisville (Ky.) School of Medicine, 1897; aged 59; died, April 11, of a self inflicted bullet wound.

Frank D. Bishop, Monrovia, Calif.; Cleveland University of Medicine and Surgery, 1894; aged 76; died, March 9, of carcinoma of the prostate and bladder.

Allan Holford Walker, Toronto, Ont., Canada; Royal College of Physicians and Surgeons, Kingston, 1867; aged 87; died, February 23, of angina pectoris.

Aurelius L. Petree, Greensboro, N. C.; College of Physicians and Surgeons, Baltimore, 1886; aged 74; died, April 16, of angina pectoris and myocarditis.

Wiley L. Whitehead, Lake City, S. C.; Maryland Medical College, Baltimore, 1904; aged 59; died, March 31, of injuries received in an automobile accident.

Joseph H. Close, Topeka, Kan.; Rush Medical College, Chicago, 1894; aged 68; died, April 7, of carcinoma of the left kidney with metastasis.

Samuel King Carson, Palo Alto, Calif.; Ohio Medical University, Columbus, 1898; aged 68; died, March 17, of carcinoma of the bladder.

Frederick L. Tupper ⊕ Flint, Mich.; Michigan College of Medicine and Surgery, Detroit, 1894; aged 74; died, April 21, of heart disease.

Helen B. Bodelson, Rock Island, Ill.; Woman's Hospital Medical College, Chicago, 1878; aged 91; died, April 13, of bronchopneumonia.

Charles Foley, Dearborn, Mich.; Detroit College of Medicine, 1891; aged 85; died, April 10, of coronary thrombosis and myocarditis.

William Ledmon Allen, Oakland, Calif.; University of Buffalo School of Medicine, 1878; aged 86; died, March 28, of heart disease.

George W. Weyl, Pasadena, Calif.; Eclectic Medical Institute, Cincinnati, 1889; aged 66; died suddenly, April 15, of heart disease.

Mary Parks Putnam, Los Angeles; College of Physicians and Surgeons, Boston, 1894; aged 91; died, March 7, of chronic myocarditis.

George Edens, Danville, Ill.; Hahnemann Medical College and Hospital, Chicago, 1879; aged 81; died, April 17, of cerebral softening.

D. Harvard Irwin, Marcellus, Mich.; Michigan College of Medicine and Surgery, Detroit, 1904; aged 64; died, March 12.

Edgar T. Behymer, Batavia, Ohio; Eclectic Medical Institute, Cincinnati, 1881; aged 78; died, April 20, of uremia.

W. A. Kimbrough, Haskell, Texas; Louisville (Ky.) Medical College, 1894; aged 60; died, April 3, of heart disease.

David G. Stewart, Ironton, Ohio; Columbus Medical College, 1891; aged 76; died, March 9, of diabetes mellitus.

Charles P. Felshaw, Holly, Mich.; Detroit Medical College, 1877; aged 92; died, April 8, of bronchitis.

Irene Salgo, New York; University of Szeged, Hungary, 1923; aged 35; died, April 8, of epilepsy.

Goodson Cox, Mount Ida., Ark. (licensed, Arkansas, 1903); aged 87; died, February 23, of senility.

Bureau of Investigation

MISBRANDED "PATENT MEDICINES"

Abstracts of Notices of Judgment Issued by the Food and Drug Administration of the United States Department of Agriculture

[Editorial Note: The abstracts that follow are given in the briefest possible form: (1) the name of the product; (2) the name of the manufacturer, shipper or consigner; (3) the composition; (4) the type of nostrum; (5) the reason for the charge of misbranding and (6) the date of issuance of the Notice of Judgment—which may be considerably later than the date of the seizure of the product.]

Teaco Ointment.—White & Kleppinger, Inc., Chicago. Composition: Ointment with petroleum base containing methyl salicylate, camphor, menthol and a trace of boric acid. Cure-all. Fraudulent therapeutic claims.—[*N. J. 17832; June, 1931.*]

Pastillas de Compuesta Mitchella.—Dr. J. H. Dye, Buffalo, N. Y. Composition: Extracts of plant drugs including resins and volatile oils; coated with starch, sugar and calcium carbonate. For female disorders. Fraudulent therapeutic claims.—[*N. J. 17834; June, 1931.*]

Welch's Sweet Lilly.—A. J. Welch, New Orleans. Composition: An ointment with a petrolatum and paraffin base containing camphor and peppermint oil. For croup, lagrippe, pneumonia, coughs, asthma, piles and toothache. Fraudulent therapeutic claims.—[*N. J. 17837; June, 1931.*]

Caliente Oil.—International Drug Sales Co., Denver. Composition: Methyl salicylate, camphor, extracts of plant drugs including capsicum; chloroform, alcohol (47 per cent) and water. Cure-all. Fraudulent therapeutic claims.—[*N. J. 17838; June, 1931.*]

Cerolactic Antiseptic Ointment.—Hibbs-Worth Laboratories, Inc., Chicago. Composition: An ointment essentially of petrolatum and paraffin, with tar, zinc oxide, sulphur and traces of cerium and phosphorus compounds. For eczema, etc. Fraudulent therapeutic claims.—[*N. J. 17840; June, 1931.*]

Cerolactic Internal Antiseptic Tablets.—Hibbs-Worth Laboratories, Inc., Chicago. Composition: Charcoal, phenolphthalein, with a small amount of a cerium compound, starch and peppermint oil, coated with sugar and starch. For stomach disorders, etc. Fraudulent therapeutic claims.—[*N. J. 17840; June, 1931.*]

Cerolactic Germicide and Prophylactic.—Hibbs-Worth Laboratories, Inc., Chicago. Composition: Boric acid, menthol, thymol, phenol, salicylic acid, a trace of a cerium compound, glycerin, alcohol and water. For mouth and throat affections. Fraudulent therapeutic claims.—[*N. J. 17840; June, 1931.*]

Taylor's Bromo-Aspirin.—Taylor Medicine Co., Tampa, Fla. Composition: Acetylsalicylic acid (aspirin) and caffeine, but no bromine nor bromide. For fevers, lagrippe, rheumatism, etc. Fraudulent therapeutic claims.—[*N. J. 17844; June, 1931.*]

Sniff.—M. R. Cady & Co., Grand Rapids, Mich. Composition: Mustard and turpentine oils, camphor and menthol, alcohol (63.2 per cent) and water. For hay fever, asthma, etc. Fraudulent therapeutic claims.—[*N. J. 17846; June, 1931.*]

Acco-Balm.—A. C. Clark & Co., Inc., Brattleboro, Vt. Composition: Ointment with petrolatum base containing zinc oxide, boric acid and a trace of pine-needle oil. For "antiseptic" uses. Fraudulent therapeutic claims.—[*N. J. 17847; June, 1931.*]

Bering Ear Oil.—Henry Heide and Sons, St. Paul, Minn. Composition: Essentially a bland oil with a small amount of methyl salicylate. For ear troubles. Fraudulent therapeutic claims.—[*N. J. 17850; June, 1931.*]

Dr. Pusheck's Cold Push.—Pusheck Health Laboratories, Chicago. Composition: Acetanilid (1.5 grains per tablet), camphor and small amounts of quinine, coated with iron oxide and starch. For fevers, influenza, etc. Fraudulent therapeutic claims.—[*N. J. 17851; June, 1931.*]

Kelp-Ine.—Kelp-Ine Products Corporation of America, Seattle. Composition: Essentially a potassium soap without iodine and iodides. For skin infections, etc. Fraudulent therapeutic claims.—[*N. J. 17852; June, 1931.*]

Torpedo Volatex.—W. C. Belmonte, New York. Composition: Volatile oils, including menthol, camphor and eucalyptol. For nasal and throat troubles. Fraudulent therapeutic claims.—[*N. J. 17853; June, 1931.*]

Hyde's Rheumatic and Kidney Remedy.—Hyde Remedy Co., Meridian, Miss. Composition: Sodium salicylate, potassium iodide, citrates, alcohol (3.85 per cent), sugar and water. For rheumatism and kidney diseases. Fraudulent therapeutic claims.—[*N. J. 17856; June, 1931.*]

Cuticura Pills.—Potter Drug and Chemical Corp., Malden, Mass. Composition: Quinine sulphate, iron carbonate, red pepper, nux vomica alkaloids, iodides and aloin. For indigestion, etc. Fraudulent therapeutic claims.—[*N. J. 17858; June, 1931.*]

Amogen Tablets.—Amogen Co., San Antonio, Texas. Composition: Calomel and extracts of plant drugs including a laxative drug and a mydriatic. General "cure-all." Fraudulent therapeutic claims.—[*N. J. 17859; June, 1931.*]

Coloni-Compound.—Coloni Laboratories, St. Louis, Mo. Composition: Extracts of plant drugs including valerian, with alcohol (17.6 per cent), glycerin and water. For "female weakness," etc. Fraudulent therapeutic claims.—[*N. J. 17861; June, 1931.*]

Radumac.—Radumac Mineral Co., Los Angeles. Composition: Water solution of the sulphates of aluminum, iron, calcium, magnesium and sodium, with sulphuric acid. General cure-all. Fraudulent therapeutic claims.—[*N. J. 17862; June, 1931.*]

Garrett's Constitutinal Virginia Dare Wine Tonic.—Fruit Industries, Ltd., New York. Composition: The red variety contained alcohol (over 22 per cent), sodium glycerophosphate, nitrogenous matter, a bitter, a reducing sugar, and water. The white variety contained the same ingredients but in slightly different proportions. For "tonic" purposes. Fraudulent therapeutic claims.—[*N. J. 17863; June, 1931.*]

Chloro-Zol.—American Drug & Chemical Co., Minneapolis. Composition: Chloramine. For sore throat, pyorrhea, female troubles, etc. Fraudulent therapeutic claims.—[*N. J. 17864; June, 1931.*]

Tettremidy.—Eucaline Medicine Co., Dallas, Texas. Composition: Acetic acid, glycerin and water, dyed pink. For skin diseases. Fraudulent therapeutic claims.—[*N. J. 17865; June, 1931.*]

Dr. Whitehall's Rheumatic Remedy.—McCullough Drug Co., Cincinnati, Ohio. Composition: Acetanilid, sodium salicylate, sugar, starch and talc. For rheumatism, etc. Fraudulent therapeutic claims.—[*N. J. 17866; June, 1931.*]

Athlophoros Searles' Remedy for Rheumatism.—Athlophoros Co., Pomfret Center, Conn. Composition: Sodium salicylate, volatile oils including cassia and peppermint, with methyl salicylate, glycerin and water. For rheumatism, etc. Fraudulent therapeutic claims.—[*N. J. 17869; June, 1931.*]

Allen's Ulcerine Salve.—J. P. Allen Medicine Co., St. Paul, Minn. Composition: Essentially a lead soap and linseed oil. For ulcers, etc. Fraudulent therapeutic claims.—[*N. J. 17870; June, 1931.*]

Marshall's Prepared Cubeb Cigarettes.—James B. Horner, Inc., New York. Composition: Essentially powdered stem and fruit tissue of cubeb. For asthma, etc. Fraudulent therapeutic claims.—[*N. J. 17873; June, 1931.*]

Prescription No. 3913.—C. H. Platt, New York. Composition: Potassium iodide, colchicine, extracts of plant drugs including sarsaparilla, with alcohol, sugar and water, flavored with sassafras oil. For rheumatism, etc. Fraudulent therapeutic claims.—[*N. J. 17902; June, 1931.*]

Ru-Co.—Clyde Collins Chemical Co., Inc., Memphis. Composition: Essentially epsom salt, Glauber's salt and small quantities of saccharin, citric acid and tartaric acid. For rheumatism, etc. Fraudulent therapeutic claims.—[*N. J. 17903; June, 1931.*]

Grimault's Syrup of Hypophosphite of Lime.—E. Fougera & Company, Inc., New York. Composition: Essentially calcium hypophosphite, morphine hydrochloride (1/22 grain per fluid ounce), sugar and water. For pulmonary troubles, etc. Fraudulent therapeutic claims.—[*N. J. 17904; June, 1931.*]

Hubbel's Formula.—Hubbel Products Corporation, Boston. Composition: Essentially alcohol (57.6 per cent), chloral hydrate, volatile oils including camphor, eucalyptol and clove oil, with formaldehyde, acetic and sulphuric acids, small quantities of extracts of plant drugs, and water. For pyorrhea, etc. Fraudulent therapeutic claims.—[*N. J. 17905; June, 1931.*]

Jenkins' Rheumatic Remedy.—I. W. Jenkins, Youngstown, Ohio. Composition: Essentially salicylic acid, potassium iodide, small quantities of extracts of plant drugs, glycerin, alcohol, sugar and water, flavored with sassafras oil. For rheumatism, etc. Fraudulent therapeutic claims.—[*N. J. 17906; June, 1931.*]

McCormick's Freesine Salve.—McCormick & Co., Baltimore. Composition: Ointment with a petrolatum base containing menthol, camphor, eucalyptus and cinnamon oils. For pneumonia, etc. Fraudulent therapeutic claims.—[*N. J. 17908; June, 1931.*]

Galpin's Antiseptic Vaginal Suppositories.—H. T. Galpin, Inc., Amityville, N. Y. Composition: Essentially boric acid, a quinine compound and ammonia alum in a base of cocoa butter. For female disorders. Fraudulent therapeutic claims.—[*N. J. 17914; June, 1931.*]

Wampole's Extracto de Higado de Bacalao (Wampole's Cod Liver Extract).—Henry K. Wampole & Co., Inc., Philadelphia. Composition: Cod liver extract, wild cherry, malt extract (diastatic); hypophosphites of calcium, sodium, potassium, manganese; iron pyrophosphate, sulphates of quinine and strychnine, with aromatics. General cure-all. Fraudulent therapeutic claims.—[*N. J. 17915; June, 1931.*]

Ducro's Alimentary Elixir.—Yglesias & Co., Inc., New York. Composition: Essentially meat extract, sugar, alcohol (18 per cent) and water. For nervous troubles, etc. Fraudulent therapeutic claims.—[*N. J. 17916; June, 1931.*]

Hydroleine.—Century National Chemical Co., Paterson, N. J. Composition: Cod liver oil, salicylic acid, alcohol, pancreatin and water. For consumption, rheumatism, etc. Fraudulent therapeutic claims.—[*N. J. 17920; June, 1931.*]

Jarabe Fenico.—Caribou Laboratories, Aguadilla, Puerto Rico. Composition: Essentially carbolic acid, glycerin, sugar and water. For asthma, etc. Fraudulent therapeutic claims.—[*N. J. 17923; June, 1931.*]

Jarabe Hipofosfito de Cal.—Caribou Laboratories, Aguadilla, Puerto Rico. Composition: Essentially calcium hypophosphite, sugar and water. For nervous troubles, etc. Fraudulent therapeutic claims.—[*N. J. 17923; June, 1931.*]

Lanman & Kemp's Pure Cod-Liver Oil and Cod Oil Black.—Lanman & Kemp, Inc., New York. Composition: The "Pure Cod-Liver Oil" consisted simply of cod liver oil; the "Cod Oil Black" consisted of rancid, dark-colored cod-liver oil. For consumption, rheumatism, etc. Fraudulent therapeutic claims.—[*N. J. 17924; June, 1931.*]

Vial's Phenic Syrup.—Charles L. Huisking & Co., New York. Composition: Carbolic acid, morphine hydrochloride (0.072 grain per fluid ounce), sugar and water. For bronchial trouble, etc. Fraudulent therapeutic claims.—[*N. J. 17925; June, 1931.*]

Creo Terpina Wampole.—Yglesias & Co., Inc., New York. Composition: Essentially creosote, terpin hydrate, glycerophosphates, a trace of chloroform, alcohol and water. For bronchial troubles, etc. Fraudulent therapeutic claims.—[*N. J. 17929; June, 1931.*]

Bentonia.—Bentonia Co., Albuquerque, N. M. Composition: Insoluble matter (clay), with extracts of plant drugs including buchu, a laxative drug, a bitter drug and glycerin, alcohol and water, peppermint flavored. General cure-all. Fraudulent therapeutic claims.—[*N. J. 17931; June, 1931.*]

Ampoules Gaiarsine Ducatte.—E. Fougera & Co., New York. Composition: Essentially guaiacol, cacodylic acid, strychnine sulphate, and water. For lagrippe. Fraudulent therapeutic claims.—[*N. J. 17932; June, 1931.*]

Pectil Colberg.—Drug Co. of Puerto Rico, Inc., San Juan, Puerto Rico. Composition: Essentially codeine phosphate, creosote, compounds of sodium and potassium, bromides, glycerophosphates, citrates, sugar and water. For bronchial troubles, etc. Fraudulent therapeutic claims.—[*N. J. 17933; June, 1931.*]

Correspondence

"HOW TO BUDGET HEALTH"

To the Editor:—Several misstatements appear in the review of "How to Budget Health," in THE JOURNAL, April 1.

The reviewer says that "the methods used to recruit members [of medical guilds] are by paid advertisements, by direct mail promotion and by personal solicitation—methods that are contrary to recognized ethical ideas."

I specifically opposed the use of paid advertisements in promoting medical guilds. "This form of promotion," the book states, "is most vulnerable on ethical grounds and should probably not be resorted to" (p. 194). The only direct mail promotion advocated is in the form of announcements sent to their patients by doctors who join the staff of a guild, or announcements of the adoption of the guild plan by an existing medical institution (p. 195). As for personal solicitation, the only kind advocated in the book is "by the word of mouth of satisfied patrons," who would naturally, without any stimulation by the officers of the guild, tell their friends about it (p. 195).

The reviewer says: "It is stated that these guilds . . . would not be able to meet expenses and that it would be necessary to have some kind philanthropist subsidize the guilds in order that they may be able to pay the running expenses." As a matter of fact, the whole argument of the book is in favor of complete self-support.

It is stated that "the membership fees should be set at a conservative figure which would meet all expected operating and overhead costs" (p. 223) and, again, "The guild is to be completely self-supporting" (p. 225). It was recognized, however, that in order to insure the members of a guild staff against loss it would be necessary to have "an adequate financial guaranty of continuous operation for at least three and possibly five years" (p. 223). A "guaranty" which might never be called for is different from a "subsidy," which implies continued assistance.

Finally, your reviewer states that "Mr. Clark says that it [the guild plan] was found to be illegal in New York State" and that "the scheme would probably come under the laws governing insurance agencies." The text of the book is in direct contradiction to these assertions. Chapter 7 demonstrates in detail that medical guilds would be legal in New York State under the membership corporations law if organized as "hospital corporations" or "partnerships" (p. 194). It is furthermore pointed out in the same chapter that "medical

guilds set up in the state of New York would not be considered insurance agencies. They would not, therefore, be subject to the jurisdiction of the insurance laws and the agencies set up to administer them" (p. 187).

EVANS CLARK, New York.
Director, Twentieth Century Fund, Inc.

PERMANENT ENLARGEMENT OF THE LIPS AND FACE

To the Editor:—Some comments seem to be needed on the paper "Permanent Enlargement of the Lips and Face Secondary to Recurring Swellings and Associated with Facial Paralysis: A Clinical Entity," by New and Kirch (THE JOURNAL, April 22, p. 1230). The authors say that "The condition is apparently a clinical entity, but we have been able to find only slight mention of it in the literature."

The condition is a clinical entity which has been recognized for fifty years and repeatedly described. It was first described by Jonathan Hutchinson in the *Medical Times and Gazette* (**1**:4, 1883). It was again considered by him in the *Illustrated Medical News* (Oct. 20, 1888, p. 82) and in the *Archives of Surgery*, London (**4**, plate LXVI, 1893). It has also been described by Weaver and Tunnicliffe (*J. Infec. Dis.* **5**:569 [Dec. 18] 1908), by Bourgeois and Egger (*Rev. hebd.*, May 22, 1909, p. 611), by Adam (*Brit. M. J.* **2**:933 [Oct. 2] 1909), in Fox, Allbutt and Rolleston's System (1911, vol. IX, p. 183), by Mackenzie (*Brit. J. Dermat.* **8**:138, 1896), by Foster (*J. Cutan. Dis.* **27**:72, 1909), by Pollitzer (*ibid.*, p. 176) and by me (*Arch. f. Dermat. u. Syph.* **111**:41, 1912). It is commonly referred to briefly in current works on dermatology: Sutton, MacLeod and Ormsby in their textbooks—the first three that I took up—all refer to it. Ormsby gives it a brief but adequate consideration as an independent clinical entity in the group of erysipelas-like infections.

Solid edema of face. (From Hutchinson's Archives of Surgery.)

The pictures given in the New and Kirch article are typical of the illustrations that appear in various accounts of the condition. This is well shown by the illustration from Hutchinson's *Archives of Surgery*, reproduced herewith, which was published forty years ago. Hutchinson's comment on these two cases was as follows:

> This plate shows the portraits of two women who were the subjects of that form of solid oedema which not unfrequently occurs as a result of repeated attacks of an erysipelatous swelling of the face. . . . I have published on different occasions a considerable number of examples of this malady. The usual history is that the patient has been liable for years to recurring attacks of erysipelas, transitory in duration and limited to the face, but attended with very considerable oedema. The final condition is one allied to Elephantiasis. The disease is wholly local.

That is still essentially the whole story. The condition is not excessively rare in dermatologic practice. I find eight cases in my private records and have certainly seen as many more. I have seen a new case within two weeks. From my cases duplicates could be selected of almost every case that New and Kirch illustrated.

Solid edema of face. (From Hutchinson's Archives of Surgery.)

They say that "the question of lymphangitis or recurring erysipelas can be excluded." How, they do not explain. They briefly refer to their biopsies, saying: "Nothing was found other than edematous tissue containing lymphocytes. After the patient had received repeated treatments, biopsy disclosed fibrous and inflammatory changes in the tissues, as would be expected." Others have found these fibrous and inflammatory changes as they expected in cases which have not been treated, and they are the sort of histologic changes that occur with chronic cellulitis.

From the days of Hutchinson's original description to the present, the condition has been associated in the minds of observers with recurrent attacks of erysipelas or lymphangitis, which caused lymphatic obstruction and secondary proliferation of fibrous tissue, exactly analogous to the process that occurs in elephantiasis. Many authors, in fact, consider it under elephantiasis. Sutton, for example, refers only to elephantiasis of the face and gives an illustration of elephantiasis of the upper lip which is a characteristic picture of the condition affecting the lip.

My first case was in a Negro boy and, as would be expected from the notorious tendency of Negroes to connective tissue overgrowth, was an extreme example involving the whole face. In him it was associated with recurrent attacks for many years of frank erysipelas with the systemic and local characteristic symptoms of erysipelas. This is frequently so. For many years I thought the condition was usually associated with frank outbreaks of lymphangitis or cellulitis. Several of my later cases, however, have given no history of typical attacks of erysipelas but have simply had recurrent attacks of swelling. This, of course, does not exclude either lymphangitis or cellulitis of the cheek. In the soft tissues of the lips and cheeks an inflammatory reaction can occur which is manifested only by swelling. I have within a week seen a cellulitis of the cheek without elevation of temperature, pain or even any redness;

simply a dense swelling of the deep structures of the cheek, which runs an acute course and quickly subsides.

MacLeod, in fact, describes this condition under "recurrent erysipelas without constitutional symptoms," which may occur "where the tissues are lax, as about the eyelids," and shows as "a definite swelling in which the redness is comparatively little marked, hence the name white erysipelas (Unna)."

Cases which have been examined histologically bear out this interpretation of the condition.

New and Kirch do call attention to an important new complication; that is, facial paralysis. I have not recently thoroughly reviewed the literature, but as far as my memory goes that has not hitherto been recorded as a complication. For it they offer no explanation. It would seem to be explainable as a possible complication of chronic inflammatory process invading a nerve traversing the tissues in which this process occurs and producing sufficient destruction of nerve tissue to cause interference with function.

New and Kirch report that the results of treatment of the condition have been satisfactory. Adam has reported two cases in which the result of antiseptic treatment has been cure; and others, with treatment based on the same principle, have occasionally reported successful results. In the experience of most observers, treatment has been unsatisfactory. As a rule, after the enlargement of the tissues has been established for a considerable time, treatment has not been satisfactory. In this the analogy to elephantiasis is exact.

WILLIAM ALLEN PUSEY, M.D., Chicago.

NEPHROPEXY

To the Editor:—In THE JOURNAL, April 15, page 1167, is an article entitled "Nephropexy by Means of a Fascial Hammock," by David R. Melen, M.D., of Rochester, N. Y. This procedure is reported as a new method of accomplishing nephropexy. In the *Urologic and Cutaneous Review* (**34**:679 [Oct.] 1930) was published my article on "Nephropexy by Fascial Transplant," in which I reported several cases of fascia lata as a hammock suspended from the twelfth rib. My patients were relieved of symptoms and the later roentgenograms showed good position of the kidney. Dr. Melen used a slightly different technic in attaching the fascia to the kidney, but the method is essentially the same as mine.

CLARENCE EMERSON, M.D., Lincoln, Neb.

[This letter was referred to Dr. Melen, who replies as follows:]

To the Editor:—I looked up the article mentioned. It is a fine method. I overlooked it in my references.

I am not in favor of the use of autofascia from the patient's thigh, as it makes an additional operation, and the fascia is absorbable.

I like the animal fascia better, as it is nonabsorbable.

I am not in favor of cutting the intercostal muscle free from the twelfth rib, as it is time consuming, is unnecessary, and adds the risk of accidental pneumothorax in cases in which the pleura extends lower than normal.

Dr. Emerson's method preceded mine. It is not his fault that I did not know about it, and he should be given credit for priority.

I make no claim to newness or priority. Dr. O. S. Fowler used fascia as early as 1913, from the thigh, as Dr. Emerson does (Fowler, O. S.: Ureteral Obstruction Causing Urinary Stasis: A New Etiology in Kidney Stones, with a New Method of Nephropexy to Secure Ideal Natural Drainage, THE JOURNAL, Jan. 31, 1914, p. 367). My method is different.

DAVID R. MELEN, M.D., Rochester, N. Y.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS and queries on postal cards will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

ARSPHENAMINE IN NEUROSYPHILIS

To the Editor:—What is the latest and most accepted theory relative to the lack of curative power of arsphenamine in neurosyphilis? Please omit name.

M.D., New York.

ANSWER.—The negative statement of this question would give the impression that arsphenamine has no curative powers in neurosyphilis. Much must, of course, depend on the aspect of neurosyphilis under consideration, but it may be definitely stated that the arsphenamines do have curative powers in neurosyphilis and that unquestionably, as evidenced by the currently appearing clinical studies of the American Cooperative Clinical Group working with the United States Public Health Service, in which early neurosyphilis at least is shown to be definitely responsive in a proportion of cases amounting approximately to 75 per cent of the whole to routine treatment with the arsphenamines and heavy metals. The observations of Bruusgaard and of Ravaut are now being widely quoted as evidence that even the spontaneous evolution of a syphilitic infection leads to recovery from some degrees of neurosyphilitic involvement irrespective of treatment, so that this factor must modify any overenthusiasm that might be expressed for the influence of the arsphenamines in standard practice. The question has been repeatedly raised by serious students as to whether the arsphenamines have a positively injurious or predisposing effect on the course and development of neurosyphilis. This question is extensively reviewed in most recent textbooks, and reference may be had also to Guy's address before the Section on Dermatology and Syphilology (THE JOURNAL, Oct. 4, 1930, p. 979) and a study by O'Leary and Rogin dealing particularly with this point (*Proc. Staff Meet., Mayo Clin.* **7**:273 [May 11] 1932). In general, it is now accepted that the adequate use of the arsphenamines in the treatment of syphilis does not predispose to neurosyphilitic involvement, though it is coincidentally powerless to prevent it in certain evidently predisposed cases. The inadequate use of arsphenamines, on the other hand, definitely predisposes to neurosyphilitic forms of relapse, especially in early syphilis, and the same statement may be made, though with less definiteness, on patients treated with the arsphenamines without adequate support from the heavy metals, bismuth and mercury. This type of relapse, known as neurorecurrence, was in the early days of arsphenamine treatment responsible for much of the prejudice that developed against the use of the drug because of its alleged tendency to precipitate neurosyphilitic accidents.

In the treatment of late neurosyphilis other than dementia paralytica, the good effect of the arsphenamines, given particularly in so-called tonic or moderate dosage, is now unquestioned. Symptomatic relief from lightning pains in tabes, improvement in ataxia, and the rapid clearing up of many of the minor symptoms of cerebrospinal and tabetic neurosyphilis under arsphenamine therapy alone are now established beyond dispute. It has even been a question whether much of the effect of intraspinal therapy and of spinal drainage, now gradually losing popularity, was not due to the beneficial therapeutic action of moderate doses of neoarsphenamine administered in preparation for the intrathecal injection of the arsphenaminized serum, or the drainage of the fluid.

In dementia paralytica the arsphenamines are now recognized as virtually powerless. Even under the most intensive form of administration they lead to only temporary improvement and short remissions, and no attempt should be made to substitute them, except as purely preparatory treatment, for the vastly more effective arsenical tryparsamide and for malarial therapy in properly selected cases. In the clinically resistant gastric crises and primary optic atrophy the arsphenamines are not effective, and primary optic atrophy, of all the localized forms of neurosyphilis, has presented the strongest case against the use of this drug. On the other hand, the most recently reported results by More in the intraspinal therapy of primary optic atrophy again tend to support the belief in the effectiveness of this drug by a suitable route of administration.

It must be recalled also that a certain amount of prejudice against the use of arsphenamines in neurosyphilis has undoubtedly arisen from the employment of too large doses without adequate heavy metal preparation in patients with acute neurosyphilitic processes. The effect of such a misuse of these drugs

is to produce focal flare ups, frequently with disastrous consequences or damage, which is quite unnecessary when the technic of dosage and of preliminary heavy metal preparation, as described in recent textbooks, is properly understood.

THE HEART TICKLER OR PACEMAKER

To the Editor:—Can you give me any information concerning the heart tickler as developed by Dr. Albert S. Hyman? In the magazine *Time* it is described as an electric gold needle. I am physician for a coal mining company and was much interested in this article. If you can send to me any information concerning this or any other method used to revive the heart after it has received severe electrical shock, I will greatly appreciate it.

A. R. CLAUSER, M.D., Madrid, N. M.

ANSWER.—The article that appeared in *Time* as well as in many newspapers was a popularized account of a report published in the *Archives of Internal Medicine* (**50**:283 [Aug.] 1932), on the resuscitation of the stopped heart by intracardial therapy, which described the experimental use of an artificial pacemaker. This paper, written by Dr. Albert S. Hyman, was one of a series of reports made in a six year study at the Witkin Foundation for the Study and Prevention of Heart Disease, Beth David Hospital, New York, concerning the problems associated with restoring automatic cardiac activity after standstill of the heart.

In a previous paper (*Arch. Int. Med.* **46**:553 [Oct.] 1930), Dr. Hyman Developed the theory that resuscitation of the stopped heart by intracardial injection was due entirely to the prick of the injected needle rather than to the pharmacodynamic action of the substance injected. The action of epinephrine, strophanthin, strychnine and eleven other substances in a series of animal experiments was shown to be secondary and of minor importance in restoring the normal cardiac cycle. Physiologic experiments demonstrated that for several minutes after complete cardiac arrest certain well established electrochemical phenomena are developed. As the myocardium becomes anoxemic there is a rise in the acid component values of the delicately balanced ratio maintained in the normal electrolytic state of the heart muscle. This change is accompanied by increased irritability of all myocardial fibers as well as an increase in electrical conductivity of muscle segments. Any mechanical stimulus may at this time be sufficient to give rise to an ectopic focus for myocardial contraction; pinching, squeezing or thumping on the heart are age-old methods of resuscitation. The extrasystole that arises may be sufficient to initiate coronary circulatory movement, with an immediate reduction of the altered chemical balance.

When intracardial injection is made, the prick of the needle serves to create an irritable point from which ectopic contractions are readily developed. The injured heart muscle immediately develops an action current, which temporarily assumes the rôle of the electrical activity of the pacemaker, so that an extrasystolic rhythm develops. When the injection has been made into the ventricles, this extrasystolic arrhythmia may rapidly develop into a paroxysmal ventricular tachycardia and finally into ventricular fibrillation with cardiac arrest again.

Hyman pointed out that, if the injection is made in the right auricle, such types of arrhythmia will have a far less hazardous outcome; for paroxysmal auricular extrasystolic tachycardia, which subsequently becomes auricular fibrillation, is not incompatible with life, since the latter condition is a well known and easily managed clinical entity.

The theory and practicability of intra-auricular puncture of the stopped heart was discussed in the editorial columns of THE JOURNAL, May 30, 1931, page 1875, and subsequently in the correspondence columns of THE JOURNAL, July 11, 1931, page 124, and Aug. 8, 1931, page 408.

The recent contribution of Dr. Hyman and his associates at the Witkin Foundation, an abstract of which appeared in THE JOURNAL, Nov. 26, 1932, page 1887, has been the substitution of the needle prick theory in reactivating the stopped heart by an electromechanical device which simulates the pacemaker current. Instead of injecting the usual hollow needle into the right auricle of the heart, a special needle electrode, containing an insulated conductor passing through the center of the needle shaft and terminating at the tip, is used. When this needle, which is the same size as the ordinary injecting needle, is placed in the auricular musculature, a tiny electric current (about 1 millivolt) is sent through the needle and forms an irritable arc measuring about 1 mm. in the myocardial muscle. This arc becomes an irritable point from which an ectopic beat is produced.

Since the number of electrical impulses can be controlled and since only one application of the needle is required, the automatic activity of the heart may be maintained by this ingenious apparatus, which has been called the artificial pacemaker. With the ectopic beat arising in the auricle, the stimulus for contraction passes over the normal pathways of the heart and a normal cardiac cycle results. The apparatus itself is a spring motor controlled generator especially constructed to deliver a current of 1 millivolt at the needle point. The current is interrupted by a polyphasic rotating disk which permits 30, 60 or 120 beats per minute to be delivered. The device is a self-contained unit of simple construction and any physician who has had occasion to perform an intracardial injection for the restoration of the stopped heart will be able to use it without difficulty. The apparatus is manufactured by the Siemens-Halske (German General Electric) Corporation and will soon be ready for general distribution to hospitals and emergency stations throughout the country.

This method of resuscitating the stopped heart is especially valuable in those cases classified by Hyman as Group I, in which the heart, though normal, has been stopped by shock, electrocution or trauma. When the apparatus has been used soon enough, a favorable outcome has been found in more than half of the cases reported. So far as accidental electrocution is concerned, Hooker and his associates in Baltimore have shown that death occurs from ventricular fibrillation. If there has been no injury to the central nervous system, Hyman has demonstrated that cardiac arrest which follows such fibrillation may respond to stimuli from the artificial pacemaker.

ACTIVE IMMUNIZATION BEFORE TERMINATION OF PASSIVE IMMUNITY

To the Editor:—I cannot agree with your answer to Dr. Daly (THE JOURNAL, January 21, p. 211) that "there seems to be no good reason why active immunization should not be started before termination of the period of passive immunity." The free antitoxin of the injected diphtheria serum neutralizes part or all of the toxin contained in the toxin-antitoxin or toxoid and so the forming of antibodies will be delayed or prevented. For the same reason a diphtheria patient who is treated with serum at the beginning of his illness can be cured and still have a positive Schick reaction, so that he should be actively immunized after his illness (Aldershoff: *Nederl. tijdschr. v. geneesk.*, Oct. 27, 1928). For this reason I regard as justified the "hunch" of Dr. Daly that it may be immunologically unsound to proceed at once with active immunization against diphtheria before the termination of the period of passive immunization.

CORNELIS SCHAGEN, M.D., Oakland, Calif.

ANSWER.—As the question stated that it was desirable to obtain "an active immunization as soon as possible owing to the local prevalence of the disease," the answer was formulated with the needs of the practical situation in mind. Now, passive immunity begins to fall off at once after the injection of the antitoxic serum. It grows less effective day by day. As ordinarily induced, it is said to last only for three or four weeks. There is no way of telling precisely when it no longer is protective, or detectable, except by repeated Schick tests. To begin active immunization before the termination of the passive immunity will not do any harm; it might be of benefit in starting active immune reactions just as soon as the passive immunity no longer protects. From the practical point of view there is nothing immunologically unsound in beginning active immunization before the termination of passive immunity.

X-RAY TECHNIC IN ACNE VULGARIS

To the Editor:—Please give me the best x-ray technic for treating acne vulgaris.

L. A. CROWELL, M.D., Lincolnton, N. C.

ANSWER.—Unfiltered x-rays, one-fourth skin unit (about 80 roentgens) each week. For the face, the treatment should be applied to each side of the face. It should not be applied to the front of the face. If the disease affects the chest and back, treatment may be applied to these parts. If so, the face must be protected while the chest is being treated, and vice versa. The maximum number of treatments is sixteen. All the details of this technic, with indications and contraindications, are contained in MacKee's book, "X-Rays and Radium in the Treatment of Diseases of the Skin," Philadelphia, Lee & Febiger, 1927.

SALTY TASTE IN MOUTH OF DIABETIC PATIENT

To the Editor:—I have under my care a patient who has mild diabetes with a hypertension controlled with a low carbohydrate diet. She does not use insulin and is sugar free in 75 per cent of the specimens. She has a salty taste in her mouth, which is persistent. I would appreciate help with this problem. Please omit name.

M.D., Connecticut.

ANSWER.—It is possible that the salty taste is not due in any way either to the disease or to the diet. One would want to be sure that there was no pathologic condition in the throat, accessory sinuses of the nose, or the teeth; also, that no medicine is being given. If nothing is found in these investigations it might be wise to ascertain the nature of the gastric secretion.

FISTULA IN ANO IN TUBERCULOSIS

To the Editor:—1. Is the following diagnosis justifiable? 2. What is the latest opinion regarding tuberculosis being the cause of fistulae in ano? Section shows smooth muscle and fibrous connective tissue with a small piece of squamous epithelium attached. A few mucous glands are found. The tissue shows many foci of lymphocytes and endothelial cells, with an occasional giant cell of the Langhans type. One focal area shows lymphocyte and endothelial cells in the periphery with a giant cell in the center. Acid-fast stains do not reveal any acid-fast bacilli. The diagnosis was tuberculosis of rectal fistula. 3. Will you also give me your opinion about the following: I sometimes see a selective pulmonary collapse, that is, the collapse of a lobe of a lung which is explained by the plugging with mucus of the bronchus leading to this lobe. The roentgenogram shows pneumothorax with selective collapse. Massive collapse of the lung following abdominal surgery is attributed to the same cause. The roentgenogram does not show true collapse in the same sense, but it shows airless lung, shall we say atelectasis, and the entire lung field is blotted out. In view of the foregoing, is it feasible to give the same explanation to the two pictures? For example, if the upper lobe of one lung is found plastered against the mediastinum, can this be explained by plugging of the bronchus supplying this lobe? If so, how has the relative negative pressure inside the pleural cavity been reduced to allow collapse of this lobe without the collapse of the remainder of the lung? If it is explained by absorption of the air in the alveoli, why does not the postoperative massive collapse give the picture of a pneumothorax instead of that of airless lung (or atelectasis)? Please omit name.

M.D., Louisiana.

ANSWER.—1. Yes, the diagnosis is most probably correct. The cellular complex is entirely compatible with tuberculosis. Acid-fast bacilli are sometimes difficult to find in such lesions.

2. Fistula in ano in tuberculous individuals is almost always a tuberculous process. Various investigators have found definite evidence of tuberculous pathologic change in over 75 per cent of such specimens, when serial sections have been made and carefully studied (Fansler, W. A.: *Journal-Lancet* **47:** 269 [June 15] 1927. Martin, C. L., Chicago Municipal Tuberculosis Sanitarium). No doubt all but a trivial minority of the other 25 per cent are also tuberculous, either primarily or secondarily infested with tubercle bacilli. There is no reason, however, why a nonspecific anal lesion may not occur in tuberculous subjects but the opinion and evidence at present, seem to indicate that practically all anal fistulas in tuberculous persons are tuberculous or ultimately become tuberculous. In nontuberculous persons, or in persons without active tuberculous disease, however, most anal fistulas are considered nontuberculous. Figures from the Mayo Clinic and other reliable authorities give only about 3 to 5 per cent tuberculosis in such cases. There are many chemical, bacterial and mechanical injuries that may involve this vulnerable part of the anatomy which are definitely not tuberculous. Although it has not been demonstrated, it is conceivable that all anal fistulas may be nonspecific at the beginning, but in tuberculous individuals they become secondarily infected by the constant stream of tubercle bacilli that pass over them. The incidence of such fistulas is about 3 to 7 per cent of tuberculous persons, while the nontuberculous persons have about a hundred times less. A point of difference may be that in the nontuberculous, many small early lesions heal. Only the large lesions persist and become infected with nonspecific bacteria, while in the illnourished tuberculous patient the small early lesions soon become tuberculous, after which they heal with difficulty, if ever.

3. The questions on lung collapse are much more involved. The cases mentioned cannot be considered at all as parallel phenomena. Some are rather well understood and others little. The first type of collapse spoken of seems to be the best understood; i. e., the kind so frequently encountered in tuberculosis or following influenzal pneumonia. It is found most frequently in the right upper lobe. Here there is an antecedent pathologic process that involves a certain pulmonary region, causing the closure of a main stem bronchus perhaps by tenacious mucus, which may (in tuberculosis) rapidly become fibrocaseous. The pulmonary tissue then become airless, leaving a partially collapsed lobe with irregular areas of involvement by the disease. Soon the intervening collapsed tissue becomes soggy with serofibrinous exudate, to be followed by an invasion of monocytes, lymphocytes, fibroblasts and, finally, fibrosis. Within a period of from four to six months this fibrous tissue contracts, "plastering" the lobe against the mediastinum. Now, a pneumothorax early in this process will greatly speed it up and produce "selective collapse" at its best. It is not all collapse, however, but partially contraction.

This is no doubt the condition that Léon Bernard (Les débuts et les arrêts de la tuberculose pulmonaire, Paris, Masson & Cie, 1932) has called "lobite." In spite of the fact that Bernard reports a favorable prognosis in nearly all these cases, they may and frequently do caseate, excavate and spread.

It is not to be taken for granted, however, that all selective collapse can be explained on this basis. There is no reason why it may not occur from the same causes as massive collapse, an entirely different and poorly understood clinical entity.

The first complete study of massive collapse was made by William Pasteur in 1890 (*Internat. J. M. Sc.* **100:**242, 1890) and on irregularly to his last report in 1914, first on diphtheria paralysis, then on operative cases. Pasteur was the first to suggest an active "massive collapse" in contradistinction to passive collapse. By "active collapse" he meant a failure of active respiratory power, in contradistinction to the plugging of a bronchus. Since then a large number of authors have experimented and theorized about the matter, till at present the information may be summarized about as follows: Obstruction of a lobe bronchus by a complete obstruction (artificial plug or tenacious mucus) will lead to a complete collapse, owing to solution of the trapped air into the blood stream, if the blood stream remains intact (Lichtheim, L.: *Arch. f. exper. Path. u. Pharmakol.* **10:**54, 1878, 1879). The collapse is centripetal from the obstruction and is not complete in lobular obstruction because of the intercommunication of Kohnsche pores (Van Allen, C. M., and Adams, W. E.: *Surg., Gynec. & Obst.* **50:**385 [Feb.] 1930). In human disease the cause is thought to be tenacious mucus. This "mucus plug" theory has been supported by Elliott and Dingley (*Lancet* **1:**1305, 1914), Jackson and Lee (*Tr. Am. S. A.* **43:**723, 1925), Coryllos and Birnbaum (*Arch. Surg.* **16:**501 [Feb.] 1928) and others, but some facts cannot be explained on this basis alone, because Pasteur and Rose Bradford (*Quart. J. Med.* **12:**127 [Oct.] 1918) have reported postmortem examinations in which no such plugs were ever found. The latter asserts also that in many patients there is no clinical evidence of them. Furthermore, massive collapse is most often sudden, while the plugged bronchus leads to a gradual collapse. Another theory is that there is a reflex spasm of the bronchioles as in asthma (Bradford: *Quart. J. Med.* Sante, L. R.: *Radiology* **4:**221 [March] 1925, and others). Sante reasoned that there must be something in addition to simple collapse because a pneumothorax lung is transparent on roentgen examination, while the collapsed lung is solid. It must be realized, however, that the "artificial" pneumothorax lung is never entirely airless, while the other usually is. A spontaneous pneumothorax lung, notwithstanding, may be airless. Another theory proposes (Briscoe, J. C.: *Quart. J. Med.* **13:**293 [April] 1920) a weakening of the diaphragm by inflammation; another attributes it to poor posture. But none explain all the phenomena. J. M. W. Morison of Edinburgh suggests that one must look on the lungs as a dynamic muscular organ, as described by C. C. Macklin (*Physiol. Rev.* **9:**1 [Jan.] 1929), functioning rhythmically in peristaltic-like waves in expiration. The action is regulated by the sympathetic and vagus nerves—the former to relax, the latter to contract. (A precedent for such a spastic condition is afforded in asthma.) An interference with the vagus would overrelax the bronchi, permitting an accumulation of mucus (which may be dry or become sticky in a dehydrated person). As the sympathetic stimulation wears off, the vagus may again reassert itself and cause spasm—and a completion of the collapse.

Irrespective of the merits of this theory, it is the only one proposed that will explain all the facts. There seems little doubt now that there may be two types of massive collapse as suggested first by Pasteur: an active and a passive. Recently the whole field of collapse has been ably treated by Ernest Fletcher (*Tubercle* **14:**3 [Oct.] 1932). This author confines atelectasis to the unexpanded lungs of infants—the lobar and lobular—sometimes leading to congenital bronchiectasis and cystic lung, respectively; apneumatosis, to the simple airless lung due to simple plugging of a bronchus, comparable to "passive collapse"; detelectasis (a new term) involving the sudden massive "active" collapse and the slow type due to diseased lung tissue; and finally, pneumothorax.

MAZOPLASIA WITH PAINFUL ENGORGEMENT OF BREASTS

To the Editor:—I have a patient, aged 37, the mother of two normal children who were nursed during infancy. The patient weighs 150 pounds (68 Kg.) and is 5 feet 6 inches (167 cm.) in height. She complains of pains and engorgement of both breasts with no relationship to the menses, these symptoms persisting sometimes for a month at a time. An examination of the breasts reveals that they are normal with regard to masses; there is no increased tenderness and the nipples are normal. The patient is not pregnant; her youngest child is 12 years of age. Kindly advise probable diagnosis and treatment. Please omit name. M.D., Illinois.

ANSWER.—The condition described is a physiologic one to which Sir Lenthal Cheatle has given the name "mazoplasia." The breasts enlarge because of a hyperplasia of the epithelial and connective tissue elements. There is desquamation of epithelial cells in the ducts and acini accompanied by hyper-

plasia of the pericanalicular and periacinous connective tissue, and frequently also new acini are formed. The epithelium that is shed accumulates in and distends the ducts and acini, producing generalized pain and often nodules throughout the breast.

In the normally menstruating women, changes are constantly taking place in the breasts as the result of stimulation by hormones circulating in the blood. Most women do not recognize any unusual changes associated with the menses, but some complain of pain and tenderness in one or both breasts. Frequently an enlargement of the breasts is observed. In typical cases the pain begins from ten to fifteen days before the menstrual flow and diminishes or disappears when the flow of blood begins. In some cases, as the one cited in the query, the pain is not associated with the menstrual cycle, and it is generally more pronounced in one breast than in the other. The breasts are usually somewhat tender and the glands feel more solid than usual.

Cutler (THE JOURNAL, April 11, 1931, p. 1201) has thoroughly discussed the question of painful breasts and recommends ovarian residue to overcome the pain. This therapy is based on the belief that painful breast are associated with excessive formation of corpus luteum. The administration of ovarian residue apparently tends to cause a cessation of the abnormal epithelial and connective tissue hyperplasia by counteracting the excessive corpus luteum secretion, thus diminishing or removing its influence on the breasts. In a certain number of women after the use of ovarian residue the breasts soften and the painful nodules disappear. Cutler suggests that patients be given 5 grains (0.3 Gm.) of ovarian residue three times a day, beginning fifteen days before the menstrual period starts, and continue taking this amount until the flow begins. Women who are not benefited much by this dosage should take an additional 5 grains daily, beginning with the menstrual flow and continuing until fifteen days before the next expected flow, from which time they again take 15 grains daily. If the menstrual flow becomes excessive, the amount of ovarian residue should be reduced.

NONGONORRHEAL URETHRAL DISCHARGE

To the Editor:—I have a patient, a man, aged 29, who ten years ago had a painless urethral discharge. He consulted a physician, who examined a smear and told him it was not gonorrhea, and to forget about it. The discharge ceased in about two weeks. Three years ago, after an interval of seven years, he commenced again to have discharge, although very small in amount. He has consulted a number of physicians, who have examined his prostate and have taken smears, and they all told him they did not know what it was due to. My examination revealed a normal sized gland, with a normal feel to the touch, and a small amount of fluid was expressed on massage. A smear showed over 20 pus cells per high power field but no organisms. The patient insists on knowing the cause of his infection. Can you state an opinion? Also can you advise any treatment besides prostatic massage which he is getting at present, which will help clear up the infection? Please omit name.

M.D., Massachusetts.

ANSWER.—An aseptic purulent discharge from the urethra is as a rule secondary to chronic congestion of the prostate and seminal vesicles. It is often difficult to trace the original cause of these conditions. In some instances this syndrome in the male corresponds to endocervicitis in the female partner brought about by the use of occlusive pessaries, especially if they are made out of rubber. Irrigations of the anterior urethra as a rule aggravate the condition. The application of medical diathermy to the penile urethra and prostate and seminal vesicles is quite successful. Massage at intervals of the prostate and seminal vesicles is also indicated. It has to be kept in mind that successful evacuation of the seminal vesicles can be accomplished only by the use of a club-shaped instrument constructed for this purpose.

CORRECTIVE MEASURES IN CROSS-EYES

To the Editor:—I should like to have your opinion as to how soon corrective measures should be started on a child's eyes that do not sometimes focus properly. This child is 13 months old and it is only in the past two weeks that the condition has been noticeable. At times the accommodation seems quite normal but at other times she may look definitely cross eyed. I should also like to know what can be done. Please omit name.

M.D., Illinois.

ANSWER.—Not infrequently are children under the age of 12 months more or less cross-eyed, principally because central visual acuity has not yet been developed to the full extent and because fusion has not yet taken place. In the majority of such cases, parallelism develops spontaneously and attention is not required. But if the strabismus persists, the child should receive ophthalmologic attention as soon as possible. Refraction under full atropine cycloplegia should be performed and the existing errors of refraction corrected. If the vision is manifestly lower in one eye than the other, part time occlusion of the good eye should be practiced. As soon as the child is able to cooperate, orthoptic training exercises should be started with the aim of developing fusion as early as possible. In resistant cases it is the practice of today to operate between the age of 3 and 5 years, provided at least eighteen months' orthoptic training has shown that the strabismus cannot be corrected by nonsurgical means.

ILLUMINATING GAS AND ABORTION

To the Editor:—A woman, aged 30, who has had two normal pregnancies, the last one being four years ago, became pregnant in July, 1932. During her first trimester she complained of malaise and indefinite complaints, such as headaches, nervousness and mild gastro-intestinal symptoms, which were quite different from those present in the average case of pregnancy. The physical and laboratory results were negative. In October, 1932, she had a spontaneous abortion from which she recovered without complications, except for the continuance of the indefinite complaints mentioned. It later developed that during her entire period of pregnancy she was living in a house in which there was a rotted gas-pipe and that she and her family were exposed to the inhalation of undetermined amounts of illuminating gas. Her husband, who gave a history of chronic peptic ulcers, was also affected by the return of his gastric symptoms, more or less continued during his occupancy of this dwelling. I should like to know the possible effect of inhalation of small quantities of illuminating gas over a period of three months on the course of pregnancy, the possibility of its being the cause of the miscarriage, and its effect on a patient with chronic peptic ulcers. Could a child of 6, living in the same house, entirely escape from the effects of the gas while the adults became affected? Please omit name and address. I would appreciate inclusion of references.

M.D., Missouri.

ANSWER.—The inhalation of illuminating gas over a long period of time sufficient to produce a certain degree of poisoning can lead to an abortion. Williams (Obstetrics, ed. 6, 1930, p. 762), in discussing the etiology of abortion, says that "poisoning with phosphorus, lead, illuminating gas and other substances may lead to similar results" (death of the fetus and its subsequent expulsion from the uterus). De Lee (Obstetrics, ed. 5, 1928, p. 451), in his discussion on the maternal causes of abortion, says that "the sudden rise of temperature may stimulate the uterus to action as also may the hypercarbonization of the blood in those diseases which are attended by cyanosis." Stockard (*Am. J. Anat.* **28**:115 [Jan.] 1921) found that a temporary reduction in the oxygen supply of the environment may lead to death of the embryo.

Illuminating gas is poisonous chiefly because of the carbon monoxide which it contains, and the most frequent source of carbon monoxide poisoning is illuminating gas, which contains from 4 to 16 per cent of carbon monoxide in coal gas and from 30 to 40 per cent in water gas. Usually there is a certain degree of safety in the odor of illuminating gas; but a leaky gas main may be the source of the gas, which may lose its odor by filtration through the ground and find its way into apartments some distance from the source of the leak.

Carbon monoxide has a pronounced affinity for the hemoglobin of the blood, displacing molecule for molecule the oxygen which is combined in the form of oxyhemoglobin, thus preventing the normal oxygen-carrying power of the blood and causing the tissues to suffer for want of oxygen (anoxemia).

Webster (Legal Medicine and Toxicology, 1930, p. 550), in a comprehensive article on this subject says: "In the home the sources of CO are many and are ordinarily disregarded by most individuals. Many of us are constantly subjected to the possibility of absorbing carbon monoxide which may arise from leaky gas fittings, incomplete combustion of carbonaceous matter in stoves, grates, furnaces, . . . leaky rubber tubing used to connect gas heaters, etc."

The symptoms of chronic poisoning from illuminating gas vary with the time of exposure and the degree of concentration. They "include progressive fatigue, muscular weakness, headache, dulness and mental depression, disturbed vision, a peculiar transient ashy pallor which may change to a more or less greenish pallor, red patches on the cheek bones, palpitation of the heart, nausea, vomiting, vertigo, slowing of the pulse and dyspnea."

From the foregoing statements it appears that both the miscarriage in the wife and the return of the gastric symptoms in the husband may readily have been due to chronic poisoning from illuminating gas. The escape of the child from the effects of the gas is not easy to explain unless the child spent the greater part of each day in the open air outside the home and therefore was not exposed much to the gas. Henderson and Haggard (Noxious Gases, 1907, p. 106) say: "When two individuals, one of whom is much larger than the other, or when an adult and a child, both at rest, are exposed to the same atmosphere, it is the smaller and younger individual with the more active metabolism who absorbs carbon monoxide and

tends to approach saturation the more rapidly. . . . Small individuals therefore succumb to carbon monoxide more rapidly than large individuals for the volume of their respiration is greater in relation to their volume of blood." Webster says: "While there is little difference in susceptibility of the two sexes to the action of such gases as carbon monoxide, yet the female, being somewhat more accustomed to breathe the vitiated air of the house, has possibly a slightly greater resistance to its action."

PSYLLIUM SEED — LIQUID PETROLATUM — SEDATIVES IN HEART DISEASE

To the Editor:—1. Recently in reply to an inquiry you spoke of Psylla as an irritant. I thought it was taken only as added bulk. What becomes of the mucilaginous covering? 2. What harm, if any, is there in taking liquid petrolatum orally? 3. What analgesic is safe to use in a patient with myocarditis, whose heart is being sustained with daily doses of digitalis? I fear the barbiturates, though practically all the pharmaceutic houses have a special formula which they declare has a wide margin of safety. Please omit name.

M.D., California.

ANSWER.—1. Psyllium may irritate by mechanical action, especially by forming masses, when it is not taken with a sufficient amount of water. It is best to take it well stirred in a glassful of water, and to drink a tumblerful of water afterward to prevent the possibility of lump formation. The mucilage remains largely undigested and appears in the stools, and is responsible for part of the laxative action.

2. None, unless it is taken in excessive dosage, when it is liable to "leak" out of the anus.

3. Codeine (0.03 Gm.) is safe in such a patient and efficient, especially when combined with amidopyrine (0.30 Gm.).

ACCIDENTAL SWALLOWING OF DOBELL'S SOLUTION AND OF HYDROGEN PEROXIDE

To the Editor:—What is the treatment—if any is needed— of the accidental swallowing of (1) three fourths of a glass of Dobell's solution (about 5 to 6 ounces); (2) from one-half to a glassful of 3 per cent hydrogen peroxide? (3) Please give immediate treatment—if any should be indicated—and treatment from twelve to twenty-four hours after ingestion. Please do not publish my name.

M.D., Missouri.

ANSWER.—1. If the patient took as much as 200 cc. of Dobell's solution he would have ingested 3 Gm. each of sodium borate and sodium bicarbonate and 0.6 Gm. of phenol. As none of these exceed a possibly therapeutic dose, no treatment would be needed.

2. Such a dose is liable to produce considerable irritation of the gastric mucosa, its degree depending on the emptiness or fulness of the stomach.

3. As the solution is rather acid, its irritant action may be lessened by the immediate administration of sodium bicarbonate. If emesis has not occurred, vomiting might be induced or the stomach tube employed. The treatment of the subsequent gastritis would demand the use of a bland, smooth diet, such as milk and cereal gruels.

RELIEF OF TRAUMATIC EPILEPSY AFTER WITHDRAWAL OF SPINAL FLUID

To the Editor:—I recently heard a statement to the effect that the mere withdrawal of about 75 cc. of spinal fluid and the replacement of the fluid with air to make an encephalogram would be likely to cause a permanent cessation of generalized periodic convulsions (traumatic epilepsy) in an adult whose attacks started six years after a supposed skull fracture. Is there any scientific support for such a statement? Is this view generally accepted? Is this procedure a diagnostic or therapeutic one? Please omit name, city and state.

M.D.

ANSWER.—It will be recalled that, when it became common practice to make encephalograms in cases of old head injury, it was found that some of the patients experienced relief from their previously almost constant headache after this procedure. Similarly, there have been cases of narcolepsy and of traumatic epilepsy with the similar result of more or less relief after the taking of an encephalogram. The method can only be considered a diagnostic one in cases of epilepsy, but in suggesting the procedure to patients and their relatives it is permissible to say that there may perhaps be some direct benefit as well.

EFFECTS OF EPHEDRINE ON BLOOD SUGAR

To the Editor:—Some months ago in an editorial, you said that epinephrine throws sugar. Will the use of ephedrine do the same? Please omit name.

M.D., Illinois.

ANSWER.—Ephedrine has a tendency to increase the percentage of blood sugar, acting similarly to epinephrine by increasing glycogenolysis in the liver.

Council on Medical Education and Hospitals

COMING EXAMINATIONS

AMERICAN BOARD OF OBSTETRICS AND GYNECOLOGY: The *general oral, clinical and pathological* examination will be held in Milwaukee, June 13. Sec., Dr. Paul Titus, 1015 Highland Bldg., Pittsburgh.

AMERICAN BOARD OF OTOLARYNGOLOGY: Milwaukee, June 12. Sec., Dr. W. P. Wherry, 1500 Medical Arts Bldg., Omaha.

CALIFORNIA: *Reciprocity.* San Francisco, June 14. Sec., Dr. Charles B. Pinkham, 420 State Office Bldg., Sacramento.

COLORADO: Denver, July 5-8. Sec., Dr. Wm. Whitridge Williams, 422 State Office Bldg., Denver.

CONNECTICUT: *Basic Science.* Prerequisite to license examination. New Haven, June 10. Address State Board of Healing Arts, 1895 Yale Station, New Haven.

DELAWARE: Wilmington, June 13-15. Sec., Dr. Harold L. Springer, 1013 Washington St., Wilmington.

DISTRICT OF COLUMBIA: *Basic Science.* Washington, June 29-30. *Regular.* Washington, July 10-11. Sec., Dr. W. C. Fowler, 203 District Bldg., Washington.

FLORIDA: Jacksonville, June 12-13. Sec., Dr. William M. Rowlett, Box 786, Tampa.

GEORGIA: Atlanta, June 14-16. Joint Sec., Mr. R. C. Coleman, 111 State Capitol, Atlanta.

ILLINOIS: Chicago, June 27-30. Supt. of Regis., Mr. Paul B. Johnson, State House, Springfield.

INDIANA: Indianapolis, June 20-22. Sec., Dr. William R. Davidson, 413 State House, Indianapolis.

IOWA: Iowa City, June 6-8. Dir., Mr. H. W. Grefe, Capitol Bldg., Des Moines.

KANSAS: Kansas City, June 20-21. Sec., Dr. C. H. Ewing, Larned.

KENTUCKY: Louisville, June 7. Sec., Dr. A. T. McCormack, 532 W. Main St., Louisville.

MAINE: Augusta, July 5-6. Sec., Dr. Adam P. Leighton, Jr., 192 State St., Portland.

MARYLAND: *Regular.* Baltimore, June 20-23. Sec., Dr. Henry M. Fitzhugh, 1211 Cathedral St., Baltimore. *Homeopathic.* Baltimore, June 20-21. Sec., Dr. John A. Evans, 612 W. 40th St., Baltimore.

MINNESOTA: *Basic Science.* Minneapolis, June 6-7. Sec., Dr. J. C. McKinley, 126 Millard Hall, University of Minnesota, Minneapolis. *Regular.* Minneapolis, June 20-22. Sec., Dr. E. J. Engberg, 350 St. Peter St., St. Paul.

MISSOURI: St. Louis, June 7-9. Address State Board of Health, Capitol Bldg., Jefferson City.

NATIONAL BOARD OF MEDICAL EXAMINERS: *Parts I and II.* The examinations will be held at centers where there are five or more candidates, June 26-28 and Sept. 13-15. Ex. Sec., Mr. Everett S. Elwood, 225 S. 15th St., Philadelphia.

NEBRASKA: Omaha, June 7-9. Dir., Bureau of Examining Boards, Mrs. Clark Perkins, State House, Lincoln.

NEW JERSEY: Trenton, June 20-21. Sec., Dr. James J. McGuire, 1101 Trenton Trust Bldg., Trenton.

NEW YORK: Albany, Buffalo, New York and Syracuse, June 26-29. Chief, Professional Examinations Bureau, Mr. Herbert J. Hamilton, Room 315 Education Bldg., Albany.

NORTH CAROLINA: Raleigh, June 19. Sec., Dr. B. J. Lawrence, 503 Professional Bldg., Raleigh.

NORTH DAKOTA: Grand Forks, July 5-8. Sec., Dr. G. M. Williamson, 4½ S. 3rd St., Grand Forks.

OHIO: Columbus, June 6-9. Sec., Dr. H. M. Platter, 21 W. Broad St., Columbus.

OREGON: Portland, July 4-6. Sec., Dr. Joseph F. Wood, 509 Selling Bldg., Portland.

RHODE ISLAND: Providence, July 6-7. Dir., Dr. Lester A. Round, 319 State Office Bldg., Providence.

SOUTH CAROLINA: Columbia, June 27. Sec., Dr. A. Earle Boozer, 505 Saluda Ave., Columbia.

TEXAS: Galveston, June 20-22. Sec., Dr. T. J. Crowe, 918-19-20 Mercantile Bldg., Dallas.

UTAH: Salt Lake City, June 28-29. Dir., Mr. S. W. Golding, 326 State Capitol Bldg., Salt Lake City.

VERMONT: Burlington, June 21-23. Sec., Dr. W. Scott Nay, Underhill.

VIRGINIA: Richmond, June 21-23. Sec., Dr. J. W. Preston, 803 Medical Arts Bldg., Roanoke.

WISCONSIN: *Basic Science.* Milwaukee, June 17. Sec., Prof. Robert N. Bauer, 3414 W. Wisconsin Ave., Milwaukee. *Regular.* Milwaukee, June 27-29. Sec., Dr. Robert E. Flynn, 401 Main St., La Crosse.

WYOMING: Cheyenne, June 5. Sec., Dr. W. H. Hassed, Capitol Bldg., Cheyenne.

National Board of Medical Examiners

The National Board of Medical Examiners reports that its certificate was awarded to 105 candidates who passed the final examination held in Boston, Chicago and New York in January, 1933. The following colleges were represented:

College	Year Grad.
Yale University School of Medicine	(1929), (1930), (1931, 2)
Northwestern University Medical School	(1932), (1933, 2)
Rush Medical College	(1929), (1932, 4)
University of Illinois College of Medicine	(1932)
Johns Hopkins University School of Medicine	(1927), (1931)
University of Maryland School of Medicine and College of Physicians and Surgeons	(1931)
Boston University School of Medicine	(1930), (1931, 3)
Harvard University Medical School	(1929, 4), (1930, 4), (1931, 9), (1932)
Tufts College Medical School	(1930, 2), (1931, 9)
University of Michigan Medical School	(1930), (1931)

University of Minnesota Medical School.....(1932, 3)
St. Louis University School of Medicine.....(1931)
Washington University School of Medicine.....(1930), (1931, 3)
University of Nebraska College of Medicine.....(1931)
Albany Medical College.....(1931, 3)
Columbia University College of Phys. and Surgs...(1930, 7) (1931, 13)
Cornell University Medical College.....(1926), (1930, 2),(1931, 5)
Syracuse University College of Medicine.....(1931)
University of Buffalo School of Medicine.....(1931)
Jefferson Medical College of Philadelphia.....(1931)
University of Pittsburgh School of Medicine.....(1931)
Woman's Medical College of Pennsylvania.....(1931)
University of Vermont College of Medicine.....(1931)
University of Toronto Faculty of Medicine.....(1930, 3)
McGill University Faculty of Medicine.....(1930, 2),(1931)
Licentiate of the Royal College of Physicians, London, and Member of the Royal College of Surgeons, England.....(1924)
Kongelige Frederiks Universitets Medisinske Fakultet, Norway...(1922)

Utah Reciprocity Report

Mr. S. W. Golding, director, Department of Registration, reports 7 physicians licensed by reciprocity with other states and 1 physician licensed by endorsement, Jan. 16, 1933. The following colleges were represented:

College	LICENSED BY RECIPROCITY	Year Grad.	Reciprocity with
State University of Iowa College of Medicine		(1931)	Iowa
University of Louisville School of Medicine		(1925)	Kentucky
Columbia University College of Physicians and Surgeons		(1927)	New York
University of Oregon Medical School		(1929)	Washington
University of Pennsylvania School of Medicine		(1928)	Penna.
Medical College of the State of South Carolina		(1928)	S. Carolina
Memphis Hospital Medical College		(1903)	Mississippi

College	LICENSED BY ENDORSEMENT	Year Grad.	Endorsement of
Woman's Medical College of Pennsylvania		(1930)	N. B. M. Ex.

Book Notices

Clinical Physiology of the Eye. By Francis Heed Adler, M.A., M.D., F.A.C.S., Instructor in Physiology and Ophthalmology, Medical School, University of Pennsylvania. Cloth. Price, $5. Pp. 406, with 92 illustrations. New York: Macmillan Company, 1933.

The need of a book, especially in English, on the physiology of the eye has been apparent for many years, as none of the textbooks on ophthalmology, with the exception of the recent volume by Duke-Elder, have paid attention to this subject. The author is a physiologist as well as a practitioner of ophthalmology. In the introduction it is stated that there has been no attempt to make an exhaustive treatise, but that by giving, in as simple terms as possible, the fundamental facts and generally accepted theories of how the eye functions, an outline for study and a guide to the literature are furnished. It is natural that the author gives more attention to those subjects concerning which he has made personal contributions, but it may be said that items of greatest importance are stressed and these subjects are treated in a way that even one without technical scientific training may read with much pleasure. The functions of the eye are considered in a more or less logical sequence, beginning with the protective mechanism externally and concluding with the optic nerve posteriorly; discussions on the external ocular muscles, the aqueous and the intra-ocular tension are reserved for the final chapters. A critical survey reveals certain statements worthy of mention. Fischer's experiments on the permeability of the cornea are cited as gospel, although they have not been corroborated. Heterochromia iridis is said to be due to a lesion of the cervical sympathetic ganglion. The superior colliculi are designated as the way station for the pupillomotor fibers en route to the third nerve nuclei. The action of drugs on the iris musculature is treated briefly. No mention is made concerning chronaxia of the optic nerve. The work of Baurmann with the ultramicroscope is not discussed in the chapters on the lens or vitreous. Those peculiar entopic phenomena, which patients often inquire about, are made readily explainable. The influence of orthoptic exercises on the extra-ocular muscles and the retinal function is treated lightly, and Worth's conception of the fusion center does not explain entirely the reason for amblyopia and squint. The work of Poliak on the visual paths of the cerebral cortex is not mentioned. The drawings, charts and pictures, some original, are well produced and descriptive. An excellent departure from the ordinary bibliography appended to each chapter is the inclusion not only of the concrete references used in the text but also an extensive compilation of the pertinent literature. The type is large and a generous index concludes the volume. The author has accomplished his aim in a clear and concise manner, bringing to the student, the biochemist, the psychologist, the general physician, the physiologist, the neurologist and the ophthalmologist the first textbook limited to this subject and its extensive literature. It will readily find its place for those having any interest in the clinical physiology of the eye.

Hookworm Infection. By Clayton Lane, M.D., Lieut.-Colonel Indian Medical Service (Retd.). Cloth. Price, $6.25. Pp. 319, with 36 illustrations. New York & London: Oxford University Press, 1932.

Hookworm disease has been widely used of late as a vehicle for carrying forward the propaganda for public health measures and for illustrating the significance of preventive medicine. Dr. Charles Wardell Stiles, recently retired from the United States Bureau of Public Health, fittingly writes the foreword to this scholarly and incisive treatise. He closes this introduction, in which he emphasizes the slowness of progress in the mastery of this infection, with the terse sentence "Civilization was not made in a day." His plea is for health workers "to utilize to its full potentiality the church organizations and the school machinery of the world in the work of educating the masses to a higher conception of health and to the suppression of disease."

Colonel Lane's treatise is thoroughly interesting for many reasons. He incorporates in it the latest information in many-sided aspects of this thoroughly investigated field; he has well thought out opinions of his own on a number of significant features; and he expresses forcibly his criticisms of others and reenforces his own views with both facts and polemic arguments that excite admiration, if not always acquiescence.

The book is a splendid example of well considered public health work. It is well balanced in selection of material for inclusion; the author is critical alike of the significance of all conclusions presented by others, and of his own methods and results; and, in all aspects of this many faceted subject, he keeps clearly in the foreground not only accurate and comprehensive scientific knowledge of hookworms and their relations to their hosts but also the control and ultimate elimination of hookworm disease.

The book opens with a succinct account of both sexes of the adult hookworms of man, Necator americanus, Ancylostoma duodenale and A. braziliense, supplemented by a brief discussion of their valid names, host, habitats, geographic distribution and biology. Much attention is given to the extracorporeal life of the eggs and larval stages of these parasites. Eggs, if not hatched, live only three months. The conclusion is reached that infective larvae will live long enough to carry on infection from year to year. He criticizes Augustine's conclusion that the infective larvae die in the soil in Puerto Rico in from six to eight weeks. His results are interpreted as due to local dilution by migration rather than by death. Hookworm campaigns based on the acceptance of Augustine's conclusions are therefore liable to failure. Lane's own trapping experiments are cited in proof of the extent and significance of the migrating instinct or tropisms of the infective larvae.

These larvae live an aquatic life in the moisture around particles of earth. They can grow to the infective stage in the soil with as low a moisture content as 8.4 per cent. Development is suspended at 55 F., and death probably ensues at 21 F. Growth to infectivity is suspended at 104 F. Oxygen is necessary for development. Anaerobic conditions in the septic tank hasten their death. Larvae prior to the infective stage feed on aerobic bacteria, such as Bacillus coli. Hydrogen ion concentration is most favorable at 7, and the limit of development is marked more sharply on the acid side than on the alkaline. Decomposition by anaerobiosis or hyperacidity destroys larvae. Light is deleterious to larvae, and gentle heat activates the infective stage.

Infestation through the skin is prevalent in the tropics and is the more primitive, but Lane is convinced from experiments that the oral route can also be utilized. However, in such cases the infective larval stage leaves the alimentary canal and follows the same route through the blood stream (rather than lymph) to the right heart, lungs, trachea, esophagus and stomach, to the small intestine, as does the worm entering by the cutaneous route.

The chapter on the pathologic damage induced by larval and adult worms is quoted and is the least satisfactory one in the book.

Much emphasis is laid on the value of an accurate method, not merely of diagnosing the presence of hookworm in the patient, but of determining the weight of the infestation, and of being able to detect light infestation. Obviously these are aspects essential not so much for diagnosis and treatment as for accurate knowledge of pathologic consequences, efficacy of therapeutic measures, and exact evidence of the results of hookworm campaigns. To these ends Lane has rejected all methods of his predecessors and has devised the D. C. F., or direct centrifugal flotation, method for mass control work, and the D. C. F. F., the previous method pushed to finality, for critical control in the detection of ova in stools. An exhaustive and critical account of all methods is given in extenso only to conclude that "it is not possible from egg counts, however exactly made, to deduce with any approach to accuracy the number of worms which a person harbours. To attempt it by inaccurate counting methods is surely futile."

The clinical symptoms and other ill effects of hookworm infestation are rather fully presented, and the varying opinions regarding the medical importance of the minor and fluctuating symptoms with which this chronic infestation is associated are reviewed.

Lane is very critical of those who believe that light, or even the lightest, infestations are negligible, and who would set a mathematical limit in numbers of worms, say 100 or even 25, which a child can harbor with impunity. The D. C. F. F. procedure gives "promise of determining, by the single factor control of disinfestation of simple hookworm infections, the extent to which the lightest infections are accompanied by detriment to the individual host. There is no justification for the confident assumption that they are personally immaterial."

Lane states that tissue immunity is marked in man except in the jejunum and ileum. Age immunity to the dog hookworm can be demonstrated in dogs but is as yet undemonstrated in man. He also holds that the reputed racial immunity of the Negro is unproved by the methods used.

The treatment for hookworm is discussed critically both as to the various anthelmintics used and as to the methods of determining their effects on the infection by Necator and Ancylostoma. "No obvious success has attended efforts to obtain, by combining drugs, a heightened parasiticidal effect with lessened toxicity to man; occasionally the reverse seems evident. Tetrachloroethylene has its fatal dose still undiscovered, and shows no advance in efficiency over carbon tetrachloride. The latter is habitually given in quantity twice as great as the fatal dose. In such high doses it displays a potency not obviously greater than that of oil of chenopodium, while in amounts less than the minimum lethal dose it seems to have no claim to a place among efficient anthelmintics. Its record of cure and death lends no justification at all to any suggestion that it should be the great exception to the humane rule of medicine, namely, that the medicinal dose must be markedly lower than the fatal dose. Oil of chenopodium depends on ascaridole for its toxicity to both man and hookworm; the doses fatal to man and hookworm seem to overlap. The drug should be withheld unless the ascaridole content of the sample used is known, and when given it must be dispensed with unfailing accuracy seeing how small an error may carry the dose over the narrow borderline between safety and possible catastrophe. The efficiency of thymol is clearly wrapped up in particulation. On all the exact evidence which has been obtained and marshaled, *particulated* thymol is the drug of election for the individual, or for the mass, treatment of hookworm infection. Some of the energy, hitherto dissipated in the search for and testing of new anthelmintics, should be diverted to make plain the conditions in which this medicament best serves its valuable purpose. Its clean record in mild cases of infection sufficiently counters the criticism that to attempt to produce complete disinfestation in hookworm infection is immoral."

The final chapter on prevention discusses the various methods for preventing or reducing soil infestation by sanitary measures fitted for rural districts and the more primitive peoples. The final chapter on hookworm campaigns boldly takes the ground that such campaigns are in the interest of health. "Taking the world as a whole, with the possible exception of the malarial organisms ankylostoma is responsible for more unhappiness and inefficiency than any other parasite, and for the most part indirectly for no inconsiderable number of deaths. Practically all tropical countries are permeated with the worm, and in places where the conditions for its propagation are not unfavorable it may reduce four-fifths of the population to a continual state of chronic ill-health which is only terminated by their premature decease, commonly from some secondary infection." Lane therefore defends the campaign for complete disinfestation as the only really effective one and cheapest in the long run, now made possible by his D. C. F. or, if presumably necessary, the D. C. F. F., to get the last worm! "Take, for example, India. If freedom from infection increases the earning power of labor by a third only (25 per cent to 50 per cent being ordinary findings) the aggregate wages earned will be increased by £100,000,000 a year.

"India is but a sample; what applies to her applies to more than half the population of the world. And if disinfestation could be brought about by the wave of a wand, how different would the tropical world be; different in sanitation, in health, in vigor, in riches, and in contentment. Towards this end is it not worth while to work, and spend, and wait?"

The National Encyclopedia. Editor in Chief: Henry Suzzallo, Ph.D., Sc.D., LL.D., President of the Carnegie Foundation for the Advancement of Teaching. Editorial Director: W. W. Beardsley. In 10 volumes. Fabrikoid, $68; Leather, $89; De Luxe edition, Morocco, $189. Various paginations, with illustrations. New York: P. F. Collier & Son Company, 1932.

This new encyclopedia is planned especially for readers who wish accurate information and easily readable and up-to-date rather than exhaustive monographs on various topics. It has been prepared by a distinguished group of cooperating editors under the general direction of Prof. Henry Suzzallo, president of the Carnegie Foundation for the Advancement of Teaching. The book discusses thoroughly recent developments in history, politics, international affairs, war debts, the national election of 1932 and similar recent problems.

In the medical section of this encyclopedia, organized and edited by Dr. Morris Fishbein, some 200 writers contributed. The total amount of space devoted to medicine is approximately 500,000 words. Thus the medical side of the encyclopedia may be considered modern, accurate, and altogether a fairly good guide to family medicine. Of particular value are the sections on anatomy and physiology.

The encyclopedia is published in ten volumes in a variety of bindings. It includes up-to-date maps of various sections of the world and is a most reliable and interesting reference work. Some of the longer articles are so well written and beautifully illustrated as to constitute in themselves good collateral reading in any field.

Les ictères. Par Étienne Chabrol, professeur agrégé à la Faculté de médecine de Paris. Paper. Price, 75 francs. Pp. 523, with 72 illustrations. Paris: Masson & Cie, 1932.

This monograph represents the accumulation of more than twenty years' study of jaundice. The papers of the author and his colleagues make a list amounting to 129. Many references—German, American and English as well as French—are made throughout the text. One has the impression of a thorough, scholarly but personal rather than impartial presentation of the subject. The work is divided into four main parts. The first is devoted to the laboratory study of icterus, with a description of the technic for clinical study of pigments, bile salts and cholesterol. A method of using the diazo reaction of Ehrlich as a ring test is described and preferred, by comparison, to the colorimetric van den Bergh test. The use of the stalagmometer is demonstrated with experimental and statistical clinical examples of results. Dissociated jaundice is explained and illustrated. A bibliography of principal French publications relative to the study of bile salts is included. In regard to stool analysis for urobilin, the author remarks that the Einhorn method of duodenal intubation has permitted the abandonment of quantitative stool analyses, which have become of only historical interest. The second main division of the work is concerned with the physiopathology of the various forms of icterus. These are divided into icterus by retention and icterus by hyperhemolysis. The problem of the origin of bile pigments is briefly reviewed; the work of American investigators is considered as well as that of the English and German. He con-

cludes in favor of the hepatogenic origin of bile pigment although including the accessory function of the general reticulo-endothelial system. The third main division is an extended clinical description and classification of syndromes characterized by jaundice. The fourth section, on treatment, is brief and includes surgical indications as well as medical procedures. In general the work is representative of the French school; it covers the subject in an interesting and scholarly way; it is by one who has studied the problems of bile and blood pigments in the clinic and in the laboratory, and it is well worth the attention of American students of jaundice.

Obstetrícia operatória. Pelo Professor Raul Briquet, lente catedrático de clinica obstétrica da Faculdade de medicina de São Paulo. 1.° e 2.° milheiros. Fabrikold. Pp. 540, with 379 illustrations. São Paulo: Companhia Editora Nacional, 1932.

Briquet acknowledges his indebtedness to the works of Brindeau, Bumm, Couvelaire, DeLee, Stöckel and Winter for many of the illustrations. The index of authors is comprehensive and gives easy access to the bibliography, which is given in detail at the conclusion of each chapter. The alphabetical index makes it easy for the reader to locate pertinent subject matter and enhances the value of the work for reference purposes. The table of contents gives a brief outline of the material contained in the twenty-five chapters. In one of the early chapters the author summarizes the indications for obstetric operations and later presents a synopsis of the different types, which is followed by more detailed considerations of the various operative procedures. He is elaborate in his description of spinal anesthesia but gives little consideration to local and inhalation anesthesia. Chloroform and ether are briefly discussed, but ethylene and nitrous oxide are not presented as valuable anesthetic agents. A chapter is devoted to a consideration of fetal trauma, and there is a complete and excellent discussion of birth trauma. This is more or less of an innovation and would seem to be a valuable addition to a work on operative obstetrics; at least it stresses the importance of these injuries and places the responsibility on the obstetrician. The various infections and their surgical management are given the necessary consideration, and many of the postoperative complications are discussed extensively. A short chapter dealing with metabolic complications is appended, in which acidosis and alkalosis are given special consideration.

Local Provision for Higher Education in Saskatchewan: An Advisory Memorandum on University Policy Proposed at the Request of the University of Saskatchewan. By W. S. Learned and E. W. Wallace, Chancellor, Victoria University, Toronto. With a foreword by Henry Suzzallo, President of the Foundation. Bulletin No. 27. Paper. Pp. 30. New York: Carnegie Foundation for the Advancement of Teaching, 1932.

In his foreword, President Suzzallo points out that this report, apparently dealing with a local problem, has in reality a much broader significance. Both the situation analyzed and the tendencies recorded have been gathering weight and momentum in the United States and in Canada for many years. W. S. Learned of the foundation and Chancellor E. W. Wallace of Victoria University, Toronto, authors of the report, maintain that a junior college, so called, is not an incomplete fragment of a college locally administered for the sake of convenience. Not "junior" to anything and not a "college" at all. They hold that it is the dimly recognized culmination or capstone of a system of secondary education and, as such, should be incorporated into the educational life of the community.

Aortitis sifilítica. Por Pedro Cossio, encargado de la sección cardiología de la cátedra de semiología del Profesor Padilla. Paper. Pp. 150, with 35 illustrations. Buenos Aires: El Ateneo, [n. d.]

Postmortem examination of bodies at the institute of the Faculty of Medicine in Buenos Aires shows that 20 per cent of cardiovascular lesions are of syphilitic origin. In other countries the proportion is lower, as the following figures seem to indicate: United States, 10 per cent; Germany, 6 per cent, and England, 5 per cent. The greater incidence in Buenos Aires is ascribed to a failure in the early diagnosis coupled with inadequate and incorrect therapy. With these facts in mind, the author has admirably set forth the pathologic anatomy, diagnostic criteria and roentgenologic aspects of syphilitic aortitis. This monograph is concise, clear and to the point; numerous illustrations enhance the value of the book.

Der Weg zur rationellen Therapie. Herausgegeben von Prof. Dr. A. Fraenkel. Vorträge gehalten zu Heidelberg vom 1.-3. August 1932 in der gemeinnützigen öffentlichen Krankenanstalt Speyerershof. Boards. Price, 10.80 marks. Pp. 183, with 35 illustrations. Leipzig: Georg Thieme, 1933.

The "path to rational therapy," in the opinion of the editor of this book, lies through the quantitative application of specifically acting bodies in accordance with pharmacologic principles. This symposium, held at Speyerershof, an institution devoted to the treatment of chronic internal diseases, is an attempt at exact study of dosage and the recording of the effects of medicines on man. In his introduction, Fraenkel stresses the point that internists should have as sharp indications and definite technic for their interventions as surgeons have for operations. In the present development of knowledge, a small, well studied group of medicines is much more desirable than a large number poorly understood. It is better for the physician to give nothing, when he is uncertain as to what to give, than to give a little medicine that is inactive or to give too much. Paul Martini gives a brief exposition of the mathematical basis of the clinical evaluation of medicines, elaborated more in detail in his "Methodenlehre." Siebeck's discussion of the mercurial diuretics makes it evident that mersalyl (salyrgan) is the one that has almost displaced the others. Straub gives what one might call the "mechanics" and Fraenkel "quantitative" considerations of digitalis therapy. For the latter purpose, intravenous administration must be preferred and strophanthin is most suitable, the minimal efficient dose of which the author places at from 0.3 to 0.4 mg. for the muscularly damaged heart. Insulin, thyroxine, arsphenamine, vitamin D, and liver therapy are dealt with in a practical quantitative manner, each by an expert in the respective field. The fact that much of this information is not yet available, excepting widely scattered in current literature, renders the report of this symposium highly desirable for the clinician who wishes to keep abreast of the latest developments and to be exact in his therapy.

Sex and Internal Secretions: A Survey of Recent Research. Edited by Edgar Allen, University of Missouri. With a foreword by Robert M. Yerkes, Yale University. Cloth. Price, $10. Pp. 951, with illustrations. Baltimore: Williams & Wilkins Company, 1932.

The Committee for Research in Problems of Sex, of the National Research Council, has guided a program of research on fundamental problems of sex for the last ten years. This book presents the results of a cooperative survey, organized by Dr. Edgar Allen. It represents the phases of research on internal secretions in relation to sex in which the committee has been most interested. The book is intended for those who are concerned in the progress of research in the problems of the biology and physiology of sex and the sex glands. The treatment of the subject is strictly scientific, but it is presented in a manner comprehensible to those with only a modest biologic background. The authors of the various sections are masters in their particular field of investigation. No finality is claimed for many of the subjects presented, as the aim of the book is to present only a summary of the most important advances of the work in this field of investigation. The first part of the book attempts to develop the subject in a fundamental manner. The first chapter, by Frank R. Lillie, is an appropriate introduction, a general biologic discussion of the subject. In the next chapter, Charles Danforth develops the interrelation of genetic and endocrine factors in sex. The succeeding chapters seek to develop the subject from the genetic background and an embryologic foundation. The general discussions are concluded by chapters on the deviation of sex and their causes, and metabolism and sex. The quantitative biologic estimation of sex is an important contribution of this part of the book. The following chapters deal with the specific sex hormone products, their biology, physiology and biochemistry. No previous book has presented such a vast fund of information on this subject in such a coherent and scholarly manner. The various chapters are presented in a scientific and interesting manner. The data are concisely summarized and a carefully chosen bibliography appears after each chapter. Publications of this type are distinctly valuable for contemporary research workers and they also serve a most useful purpose in stimulating correlated clinical research in this field of investigation. The book is indispensable for those interested in the scientific aspects of sex and internal secretions. It is also a valuable

addition to the library of any one who is interested in some of the more fundamental and recent advances in this subject. Physicians interested in any phase of endocrinology should read it.

The Significance of Phosphoric Esters in Metabolism. By Robert Robison, Ph.D., D.Sc., F.R.S., Professor of Biochemistry, University of London. Cloth. Price, $2. Pp. 104, with illustrations. New York: New York University Press, 1932.

This consists of three lectures related to pathologic chemistry, on the significance of phosphoric esters in metabolism, given under the auspices of the Herter Lecture Foundation in 1931, in the New York University and Bellevue Hospital Medical College: The Occurrence of Phosphoric Esters in Nature, Calcification of Cartilage and Bone, and Calcification in Vitro. The lectures include a survey of past research on the subjects closely related to the problems of most interest to the author, observations and findings of his own experimental studies accompanied by descriptive plates, and postulated explanations to throw light on the mechanism of the chemistry of calcification and ossification. Tables of references are appended. The lectures are essentially of research interest.

The Tides of Life: The Endocrine Glands in Bodily Adjustment. By R. G. Hoskins, Ph.D., M.D., Director of Research, Memorial Foundation for Neuro-Endocrine Research, Harvard Medical School. Cloth. Price, $3.50. Pp. 352, with illustrations. New York: W. W. Norton & Company, Inc., 1933.

This is one of the best books so far written, for laymen, on the field of the endocrine glands. The author has a long experience as investigator in this field, particularly on the suprarenals. He has had long experience as editor of more scientific books on the endocrines and as editor of *Endocrinology*. He has the gift of simplicity and lucidity of expression combined with accuracy. Any one attempting in brief form to present an account of the significant aspects of the endocrines is "in danger, on the one hand, of descending to marvel mongering, or of failing to do justice to the really remarkable advancement in human knowledge that has been made in the last four decades." Dr. Hoskins has escaped both of these pitfalls to a pleasing degree. While the book is primarily written for laymen and is both timely and welcome because of the great interest, the great confusion and the fog of fakery in the more popular literature on the subject, it may be read with much profit by physicians.

Child Psychology. By Buford J. Johnson, Professor of Psychology in the Johns Hopkins University. Cloth. Price, $4. Pp. 439, with 50 illustrations. Springfield, Ill.: Charles C. Thomas, 1932.

This work is based on the experimental methods of observation and analysis. The author feels that the transition from simple mammalian behavior to complex adult psychology must bridge the period of childhood. It becomes obvious that a study of childhood is fundamental to the understanding of adult manifestations because the factors in the former are simpler, more direct and more apparent than in the latter. In workmanlike manner he proceeds to place the psychology of this period of life on a definite basis by making detailed observations of specific characteristics and analyzing the data. The results are recorded in chapters covering periods of growth, learning, infant responses, locomotion, manipulation, speech, attention and perception, thought, emotion, social behavior and personality and individual differences. To the everlasting frustration of the science affecting good women, from the harmless hausfrau to the executive mistress of a household establishment constituting the membership of the recent luxuriant growth of child study groups, here is a book on "child psychology." The analytic school of matinée professors have "pied pipered" them into problems, complexes, egos and libidos. How the ladies will writhe when they learn the banal but disillusioning fact that all normal babies hold up their heads by the tenth day. No aspiring child study group will undertake to use this volume as a textbook. There is a forbidding frigidity of figures, a sturdiness of statistics that will immediately congeal the hot panting hunt for child psychology, so called, and its more sinister byways. Its cold catalogue of facts, its robust research review, its critical composure will freeze the rampant ardor of the skirt lifting, head tossing, indignant laywomen, betrayed and deceived into prying between its covers. Dr. Johnson will be suspected of a tongue-in-cheek maneuver by naively restoring a legitimate, long abused title to an innocently conceived scientific dissertation. From author to published work by way of eleven sculptured chapters, fifty tables and diagrams, 206 bibliographic references, and detailed author and subject indexes, there is no nonsense about this book. The genuineness of the contribution is reflected in the sterling character of its format.

Der dialektische Materialismus und die klinische Medizin. Von Prof. J. Lifschitz. Allukrainische Gesellschaft zur Förderung der kulturellen Verbindungen mit dem Auslande. Paper. Pp. 80. Kharkov: Medwydaw, 1932.

This diatribe touches on various subjects ranging from metaphysics and psychology to an attack on the ideals of medical ethics and practice. Lifschitz sees in sovietism a panacea for all the supposed ills that may occur in the science and practice of medicine. In his bolshevistic propaganda he ridicules the methods of clinical medicine and is of the opinion that the main efforts of medicine should be directed toward public hygiene, sanitation and prophylaxis in general. He extols the socialization of medicine. He is an ardent advocate of the Marx-Lenin system, which he would introduce as the predominant concept in medical thought and practice. The pamphlet is difficult to read, and the thought is hard to follow. In this polemic the attitude is that of an iconoclast, who offers nothing constructive, and who by invective, ridicule and destructive criticism would attempt to substitute a chimerical and unpractical system for one that has stood the test of time and still presents untold possibilities for the future of human welfare.

Éléments de pharmacodynamie spéciale: Étude de l'action des divers médicaments. Par Edgard Zunz, professeur à l'Université de Bruxelles. Tomes I et II. Paper. Price, 190 francs, per set. Pp. 1271, with 167 illustrations. Paris: Masson & Cie, 1932.

This book is devoted chiefly to an exposition of the mode of action of various drugs. The therapeutic uses are touched on briefly and printed in small type. Nevertheless, purely from a didactic point of view and without attempting to hide its artificial character, the author employs a therapeutic classification; for, after all, he hopes that an exact understanding of the principles and facts of pharmacodynamics may guide the practitioner in the administration of medicines and render pharmacotherapy more and more rational. It is certainly a classification that brings out in strong emphasis the most interesting utilizable effect of the drugs. Thus, quinidine is classified as an "antifibrillant"; salicylates and cinchophens are discussed under the heading "anti-inflammatories." The book will undoubtedly become an indispensable part of any working library on the action and uses of drugs that aims to be comprehensive.

Fundamentals of Dietetics: A Text-Book for Nurses and Dietitians. By Bertha M. Wood and Annie L. Weeks. Third edition. Cloth. Price, $1.75. Pp. 254, with 20 illustrations. Philadelphia & London: W. B. Saunders Company, 1932.

This volume will ably serve three purposes: as an introduction to dietetics, as a recipe book for small-quantity cookery, and as a teaching guide for hospital dietitians. As a textbook of dietetics it lacks explanatory detail and is guilty of omissions (e. g., ketogenic and reducing diets) but is sufficiently comprehensive for the pupil for whom it is intended. The eighty recipes make the book serviceable to the nurse for reference when on private duty, while the logical arrangement of subject matter and simplicity of language make it a practical teaching aid in the classroom and laboratory.

Clínica quirúrgica. Por Pablo L. Mirizzi, profesor titular de clínica quirúrgica de la Facultad de medicina de Córdoba. Tomos II e III. Paper. Pp. 308; 305, with illustrations. Córdoba: Librería "El Ateneo," 1931; 1932.

These two volumes discuss varied surgical lesions. Conditions emphasized are acute and chronic diseases of the gallbladder, chronic mastitis, malignant conditions of the breast, and osteomyelitis. To each subject one chapter is allotted, with a complete case history, followed by a discussion including surgical technic. A bibliography is appended to each chapter. The subjects are handled interestingly, but nothing new has been added to scientific literature.

Medicolegal

Use of Patient as Clinical Material

(Inderbitzen v. Lane Hospital (Calif.), 12 P. (2d) 744)

The patient sued the defendant hospital corporation and its managers for alleged malpractice in connection with her confinement. When she entered the hospital, she was examined, according to the evidence, by a young man whom she believed to be a medical student and by an older man summoned when she demanded that a doctor be called. Both made rectal and vaginal examinations without sterilizing their hands. She was then taken to the delivery room and there examined intimately two or three times by each of ten to twelve young men whom the patient believed to be students. The evidence purported to show that in spite of her protests she was several times rolled over and palpated about the body, and on protest told to "shut up." A physician, testifying on her behalf at the trial, stated that he examined her two months after her child was born and that there was then a tear in her uterus, which was infected and discharging profusely. At the conclusion of the evidence the defendants moved that the suit be dismissed, because the charges of negligence and carelessness had not been proved. The trial court granted the motion, and its action was in the first instance affirmed by the district court of appeal, first district, division number 1, California (7 P. (2d) 1049; THE JOURNAL, Oct. 22, 1932, p. 1454). The district court of appeal, however, reconsidered the case and reversed its prior decision.

It is the general rule, said the court, that the propriety or impropriety of particular medical treatment can be established only by expert medical testimony. This rule is, however, subject to the exception that if the particular matter is one of general knowledge, expert evidence is not necessary. In the present case, no medical expert testified that it was negligence for men with unsterilized hands to make rectal and vaginal examinations of the patient. But it has been held to be proper for a court to take judicial notice of the necessity for the use of ordinary care in sterilizing a hypodermic needle or the flesh into which it is to be inserted, in administering a local anesthetic (*Barham* v. *Widing*, 210 Calif. 206; 291 P. 173), and courts will likewise take judicial notice of the danger of infection to a woman about to give birth to a child, from a vaginal examination performed with unsterilized hands. The repeated examinations of the patient, continued the court, while she was in labor, by ten or twelve men, causing her to scream and protest, and the levity and rudeness that it is claimed was displayed, present "anything but a pretty picture."

As was said by the New York Court of Appeals in *Stone* v. *William M. Eisen Co.*, 219 N. Y. 205, 114 N. E. 44:

> Decent and respectful treatment is implied in the contract from the confidential relation of the parties, and especially because of the necessary exposure of the person required of the patient in connection with the services to be performed pursuant to the contract.

On behalf of the defendant, the court was urged to presume that the treatment to which the patient was subjected was necessary and proper, or at least to hold that the court could not hold such treatment to be improper in the absence of medical testimony to that effect. Common sense, however, said the court, tells any reasonable person that such treatment at the hands of so many is unnecessary and improper; scientific knowledge is not essential for the determination of an obvious fact. This treatment, at least after the patient had objected to it, constituted an assault on her or trespass to her person. A physician or a medical student has no more right to lay hands on a patient against her will than has a layman.

For the reasons stated, the action of the trial court in dismissing the suit was reversed.

Evidence: Testimony of Medical Experts Invading Province of Jury.—The plaintiff slipped and fell. Immediately thereafter he felt a stinging sensation through the small of his back. About twenty minutes later he felt faint and suffered a series of hemorrhages. Eventually he became unable to "navigate his feet," which in the opinion of a medical expert was "due to some incoordination, lack of muscular coordination, and is due possibly to some condition in his spinal cord." Alleging that his disability was caused solely by the fall, the plaintiff brought suit on an insurance policy which provided for certain benefits for effects resulting directly and exclusively of all other causes from bodily injuries sustained wholly through external, violent and accidental means. The insurer contended that the disability was the result of gastric ulcers present at the time of the fall. From a judgment for the plaintiff the insurer appealed to the Supreme Court of Iowa. The insurer complained that the trial court had permitted several medical experts to testify, in effect, that the fall was the sole, proximate cause of the plaintiff's present disability. This testimony, said the Supreme Court, was a clear invasion of the province of the jury and was improper. In a case of this kind, it may be important for an expert to enlighten the jury on subjects of a technical or scientific character. An expert may be permitted to express an opinion as to whether, in his judgment, a certain condition, arising in a scientific or technical field, may have been brought about from certain causes. An expert, however, may never be permitted to invade the province of the jury by expressing an opinion as to what in fact did cause that condition. The judgment was reversed and the cause remanded for a new trial.—*Justis v. Union Mut. Casualty Co. (Iowa) 244 N. W. 696.*

Society Proceedings

COMING MEETINGS

American Medical Association, Milwaukee, June 12-16. Dr. Olin West, 535 North Dearborn Street, Chicago, Secretary.

American Academy of Pediatrics, Chicago, June 12-13. Dr. Clifford G. Grulee, 636 Church Street, Evanston, Ill., Secretary.

American Association for the Study of the Feeble-Minded, Boston, May 31-June 3. Dr. Groves B. Smith, Beverly Farms, Godfrey, Ill., Secretary.

American Association of Medical Milk Commissions, Milwaukee, June 12-13. Dr. Harris Moak, 360 Park Place, Brooklyn, Secretary.

American Dermatological Association, Chicago, June 8-10. Dr. W. H. Guy, 500 Penn Avenue, Pittsburgh, Secretary.

American Federation of Organizations for the Hard of Hearing, Chicago, June 18-22. Miss Betty C. Wright, 1601 35th Street, N.W., Washington, D. C., Secretary.

American Heart Association, Milwaukee, June 13. Dr. Irl C. Riggin, 450 Seventh Avenue, New York, Executive Secretary.

American Laryngological, Rhinological and Otological Society, Chicago, June 8-10. Dr. Robert L. Loughran, 33 East 63d Street, New York, Secretary.

American Proctologic Society, Chicago, June 12-13. Dr. Frank G. Runyeon, 1361 Perkiomen Avenue, Reading, Pa., Secretary.

American Psychiatric Association, Boston, May 29-June 2. Dr. Clarence O. Cheney, 722 West 168th Street, New York, Secretary.

American Society of Clinical Pathologists, Milwaukee, June 9-12. Dr. A. S. Giordano, 531 North Main Street, South Bend, Ind., Secretary.

American Therapeutic Society, Milwaukee, June 9-10. Dr. Oscar B. Hunter, 1801 Eye Street, N.W., Washington, D. C., Secretary.

American Urological Association, Chicago, June 20-22. Dr. Gilbert J. Thomas, 1009 Nicollet Avenue, Minneapolis, Secretary.

Association for Research in Ophthalmology, Milwaukee, June 13. Dr. Conrad Berens, 35 East 70th Street, New York, Secretary.

Association for the Study of Allergy, Milwaukee, June 12-13. Dr. Warren T. Vaughan, 808 Professional Building, Richmond, Va., Secretary.

Association for the Study of Internal Secretions, Milwaukee, June 12-13. Dr. F. M. Pottenger, 1930 Wilshire Boulevard, Los Angeles, Secretary.

Conference of State and Provincial Health Authorities, Washington, D. C., June 5-6. Dr. A. J. Chesley, State Department of Health, St. Paul, Secretary.

Connecticut State Medical Society, Hartford, May 24-25. Dr. Charles W. Comfort, Jr., 27 Elm Street, New Haven, Secretary.

Maine Medical Association, Poland Spring, June 26-28. Dr. Philip W. Davis, 22 Arsenal Street, Portland, Secretary.

Massachusetts Medical Society, Boston, June 5-7. Dr. Walter L. Burrage, 182 Walnut Street, Brookline, Secretary.

Medical Library Association, Chicago, June 19-21. Miss Marjorie J. Darrach, 645 Mullett Street, Detroit, Secretary.

Medical Women's National Association, Milwaukee, June 11-12. Dr. Inez A. Bentley, 45 Gramercy Park, New York, Secretary.

Minnesota State Medical Association, Rochester, May 22-24. Dr. E. A. Meyerding, 11 West Summit Avenue, St. Paul, Secretary.

Montana, Medical Association of, Anaconda, July 12-13. Dr. E. G. Balsam, Box 88, Billings, Secretary.

National Tuberculosis Association, Toronto, Canada, June 26-30. Dr. Charles J. Hatfield, Seventh and Lombard Streets, Philadelphia, Secretary.

Nebraska State Medical Association, Omaha, May 23-25. Dr. R. B. Adams, Center McKinley Building, Lincoln, Secretary.

New Jersey, Medical Society of, Atlantic City, June 6-9. Dr. J. B. Morrison, 66 Milford Avenue, Newark, Secretary.

North Dakota State Medical Association, Valley City, May 31-June 2. Dr. Albert W. Skelsey, 20½ Broadway, Fargo, Secretary.

Pacific Coast Oto-Ophthalmological Society, San Francisco, June 28-30. Dr. F. C. Cordes, Fitzhugh Building, San Francisco, Secretary.

Rhode Island Medical Society, Providence, June 3. Dr. J. W. Leech, 167 Angell Street, Providence, Secretary.

West Virginia State Medical Association, Charleston, May 22-24. Mr. Joe W. Savage, Professional Building, Charleston, Executive Secretary.

Current Medical Literature

AMERICAN

The Association library lends periodicals to Fellows of the Association and to individual subscribers to THE JOURNAL in continental United States and Canada for a period of three days. Periodicals are available from 1925 to date. Requests for issues of earlier date cannot be filled. Requests should be accompanied by stamps to cover postage (6 cents if one and 12 cents if two periodicals are requested). Periodicals published by the American Medical Association are not available for lending but may be supplied on purchase order. Reprints as a rule are the property of authors and can be obtained for permanent possession only from them.

Titles marked with an asterisk (*) are abstracted below.

American Journal of Cancer, New York

17: 1-292 (Jan.) 1933

Spindle-Celled Tumor in Fowl Following Injection of 1: 2: 5: 6-Dibenzanthracene in Fatty Medium. H. Burrows, London, England.—p. 1.
Effect of Irradiation on Normal and Neoplastic Brain Tissue. B. J. Alpers and H. K. Pancoast, Philadelphia.—p. 7.
Size of Operable Cancers: Study of Seven Thousand One Hundred and Seventy-Nine Specimens. W. C. MacCarty, Rochester, Minn.—p. 25.
Correlation of Roentgen-Ray Picture with Histology in Certain Breast Lesions. S. P. Reimann, Philadelphia, and P. S. Seabold, Upper Darby, Pa.—p. 34.
Heliotropism of Cholesterol in Relation to Skin Cancer. A. H. Roffo, Buenos Aires, Argentina.—p. 42.
*Studies on Hydrogen Ion Concentration of Blood in Cancer. J. O. Ely, Scranton, Pa.—p. 58.
Studies of Growth Factors of Embryo Extract. W. C. Hueper, A. Allen, M. Russell, G. Woodward and M. Platt, Philadelphia.—p. 74.
Effects of Neoarsphenamine on Spontaneous Breast Tumors of Mice. W. C. Hueper and S. Itami, Philadelphia.—p. 106.
Incidence and Nature of Tumors in Captive Wild Mammals and Birds. H. L. Ratcliffe, Philadelphia.—p. 116.
Analysis of Factors Entering into Radium Pack Intensities. M. C. Reinhard, Buffalo.—p. 136.
Cancer Mortality of Amsterdam, Holland, by Religious Sects. F. L. Hoffman.—p. 142.

Hydrogen Ion Concentration of Blood in Cancer.—Using the method of Hastings and Sendroy, as modified by McDonald and co-workers, Ely studied the p_H of the blood of normal subjects at rest, normal subjects during activity, untreated cancer patients, previously treated cancer patients, patients with benign tumors, a group of cancer patients showing the effect of treatment on the blood p_H, a group of tumor patients designed to show any relation between the blood p_H and existing anemia, fracture cases, and a miscellaneous group of patients presenting malignant growths. He observed that cases of uncomplicated and untreated skin and superficial cancers usually have a normal blood p_H. Uncomplicated cases of untreated and advanced internal cancers usually have a blood p_H above normal. Patients with benign tumors usually have a blood p_H above normal. In a number of pathologic conditions other than cancer the blood p_H is elevated, comparably to that in cancer. A blood p_H persistently high in spite of treatment appears to be a bad prognostic sign in cancer. The p_H of the blood by itself is of little, if any, diagnostic value in cancer.

American J. Obstetrics and Gynecology, St. Louis

25: 1-164 (Jan.) 1933

Complications of Radium Therapy in Gynecology. G. G. Ward, New York.—p. 1.
Technic of Radiation Therapy in Uterine Carcinomas. H. Schmitz, Chicago.—p. 10.
Analysis of Menstrual Changes in Tuberculous Women. E. M. Jameson, Saranac Lake, N. Y.—p. 22.
Epithelial Regeneration in Uterine Glands and on Surface of Uterus. G. N. Papanicolaou, New York—p. 30.
Behavior of Epithelium in Explants of Human Endometrium. E. F. Hirsch and H. O. Jones, Chicago.—p. 37.
Bilateral Renal Agenesis in Fetus, Associated with Oligohydramnios. G. S. Bates, Detroit.—p. 41.
Ovarian Embryoma: Report of Case. P. J. Sarma, Chicago.—p. 51.
*Kraurosis Vulvae: Report of Thirteen Cases. M. A. Goldberger, New York.—p. 58.
Supports of Uterus. H. Koster, Brooklyn.—p. 67.
Internal Rotation of Fetal Head from Point of View of Comparative Obstetrics. L. Rudolph and A. C. Ivy, Chicago.—p. 74.
Respiratory Function of Detached Placenta. G. M. Brandau, Houston, Texas.—p. 95.
*Bercovitz Test for Pregnancy: Report of Two Hundred and Sixty Cases. A. G. King, New Orleans.—p. 99.
Varicose Veins of Pregnancy. N. J. Kilbourne, Los Angeles.—p. 104.
Congenital Pneumonia of Stillborn and New-Born. J. Kaldor, Brooklyn.—p. 113.
*Subacute Bacterial Endocarditis as Complication of Pregnancy. W. F. Mengert, Philadelphia.—p. 121.
Heartblock in Pregnant Women. J. P. Greenhill, Chicago.—p. 125.
Some Urologic Complications in the Female. G. Kolischer, Chicago.—p. 128.
*Use of Adrenalin in Treatment of Acute Inversion of Puerperal Uterus: Report of Case. J. A. Urner, Minneapolis.—p. 131.
Case of Laryngeal Diphtheria Complicating Puerperium. J. Hersh, Pittsburgh.—p. 133.
Quinine Insufflation Treatment of Trichomonas Vaginalis: Preliminary Report. J. H. Sure and J. E. Bercey, Milwaukee.—p. 136.
Blood Chemistry Studies of Normal New-Born Infants: Preliminary Communication: I. Blood Sugar Estimations. A. W. Holman and A. Mathieu, Portland, Ore.—p. 138.
Ureteronephrectomy During Early Pregnancy. R. B. McKnight and R. Patterson, Charlotte, N. C.—p. 141.
Hypertrophy of Clitoris: Report of Two Cases. L. W. Mason, Denver.—p. 144.
Cyanosis of the New-Born: Case Reports Showing Value of Roentgen Ray as Aid in Diagnosis. E. H. Dennen, New York.—p. 147.
Rupture of Corpus Luteum as Cause of Acute Abdominal Symptoms: Case Reports. W. R. Payne, Newport News, Va.—p. 150.
Entrance of Lipiodol into Ovarian and Other Veins During Uterography. J. C. Kilroe and A. M. Hellmann, New York.—p. 152.
Report of Results After Twelve Years, in a Case of Ureterovesical Anastomosis. H. D. Furniss, New York.—p. 154.
Instrument to Outline Pfannenstiel Incision. S. S. Schochet and J. E. Lackner, Chicago.—p. 155.
Case in Which Several Foreign Bodies Were Found in Vagina of Feeble-Minded Pseudohermaphrodite. R. A. Lifvendahl, Chicago.—p. 156.
Velamentous Insertion of Cord with Rupture, and Subsequent Death of Fetus in Uterus: Report of Case. H. B. Boley, Brooklyn.—p. 156.
Yellow Atrophy of Liver in Latter Part of Pregnancy, with Recovery: Report of Case. C. Duncan and G. R. MacLachlan, Brooklyn.—p. 157.

Kraurosis Vulvae.—Goldberger presents an analysis of thirteen cases of kraurosis vulvae, of which eight were treated by vulvectomy. He studied thirteen cases of carcinoma in order to determine a relationship to kraurosis. Both from the literature and from his analysis, carcinoma was found to develop in kraurosis in 50 per cent of the cases. Unsuspected carcinoma was present in two of the eight cases treated by vulvectomy. He observed that roentgen and hormonal therapy was ineffective. Vulvectomy is the treatment for the cure of kraurosis and the prevention of carcinoma.

Bercovitz Test for Pregnancy.—King points out that the value of the Bercovitz pupillary reaction in pregnancy, although it is exceedingly simple, is greatly impaired by the difficulty in reading the result and by the fact that much depends on the personal equation of the observer. It consists in the instillation into one eye of a few drops of the patient's blood, pregnancy being indicated by either a dilatation, a contraction, or an alternation of the two, in contrast with the other eye in which there is no change. In 107 cases of proved pregnancy the author observed a positive result in 68 per cent, a doubtful response in 10 per cent, and a negative result in 21 per cent. Epinephrine, 1:1,000, will give similar reactions, to some extent. In seven cases out of forty-five, epinephrine gave a correct positive result when the blood test was either negative or doubtful. The reaction is not constant in the same woman at different examinations. The reaction disappears early in the puerperium in most but not in all cases. In 108 tests on nonpregnant persons there were four false positive responses and eleven doubtful reactions.

Endocarditis as Complication of Pregnancy.—From his study of two cases, Mengert states that subacute bacterial endocarditis does not seem to affect materially the course of pregnancy, labor and the puerperium. Pregnancy complicated by subacute bacterial endocarditis should be allowed to proceed to normal conclusion because the mother's course is almost certain to terminate fatally, and it is extremely doubtful if sacrifice of the child contributes, even in the smallest way, to her chance of survival. Delivery by the most conservative means possible after full dilatation of the cervix with plentiful first stage analgesia is the obstetric treatment of choice. Cesarean section is justified only in the interest of the baby when the mother is dying. The babies seem to do well if they are not too premature at birth.

Epinephrine in Treatment of Puerperal Uterus.—Urner reports a case of acute inversion of the puerperal uterus in which the intramuscular injection of epinephrine seemed to have been effective in producing relaxation of the uterus and cervix and to have greatly facilitated manual replacement. There is little doubt of its value in protecting the patient from further shock during operation. The author suggests

that epinephrine is a valuable adjunct in the reposition of the acutely inverted puerperal uterus by either manual or operative method.

American Journal of Physical Therapy, Chicago

10: 1-44 (Jan.) 1933

Discussion of Galvanism. J. N. Giesy, Salt Lake City.—p. 6.
Physical Therapy in Raynaud's Disease. C. R. Brooke, Newark, N. J. —p. 10.
Water in Skin Disorders. H. M. Fusay.—p. 12.
Care of Oily Skin. H. Goodman, New York.—p. 13.
Fundamentals of the Life Process: All Animal Life Is a Manifestation of the Transformation of Unoxidized Organic Material. Margaret G. Woodward.—p. 17.
Feet and Their Troubles. E. J. Drinkall, Chicago.—p. 26.

American Journal of Physiology, Baltimore

103: 1-264 (Jan.) 1933

Blood Cholesterol in Experimental Hypothyroidism and Hyperthyroidism (Rabbit). J. J. Westra and M. M. Kunde, Chicago.—p. 1.
Relation of Insulin to Liver Glycogen. R. C. Bodo and I. Neuwirth, New York.—p. 5.
Liver Glycogen Storage in Diabetic Animals. R. C. Bodo, F. Co-Tui and L. Farber, New York.—p. 18.
Fresh and Dried Yeast as Sources of Vitamin B. R. Walker and E. M. Nelson, Washington, D. C.—p. 25.
Effect on Lactating Mice of Injecting an Extract of Urine of Pregnancy. E. V. Enzmann and G. Pincus, Cambridge, Mass.—p. 30.
Protein Content and Normal Flow of Lymph from Foot of Dog. J. C. White, Madeleine E. Field and C. K. Drinker, Boston.—p. 34.
Studies on Physiology of Liver: XXIV. Effect of Insulin on Blood Sugar Following Total Removal of Pancreas and Liver. F. C. Mann and J. L. Bollman, Rochester, Minn.—p. 45.
Studies on Indirect Measurement of Blood Pressure: I. Sources of Error in Riva Rocci Method. H. C. Bazett and L. B. Laplace, Philadelphia.—p. 48.
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Conducted Contractures Without Action Potentials in Single Muscle Fibers. S. Gelfan and G. H. Bishop, St. Louis.—p. 237.
Examination of Cerebrospinal Fluid for Oxytocic Activity as Tested by Rabbit Uterine Fistula Preparation. Gertrude Sanders Friedman and M. H. Friedman, Philadelphia.—p. 244.
Continuous Intravenous Administration of Epinephrine and Glucose in Dogs: Further Observations. P. C. Samson, with technical assistance of Hulda Rohde, Chicago.—p. 255.

Humoral Agents and Gallbladder Contraction.—In their experiments on dogs, Voegtlin and his associates attempted to determine whether some product of the digestion of fat and egg yolk may excite the gallbladder to contract on being absorbed. This was done to ascertain whether some humoral agent other than cholecystokinin may be concerned in gallbladder evacuation on ingesting egg yolk and cream or olive oil. Their results indicate that no other humoral agent than cholecystokinin is concerned in gallbladder contraction and evacuation. Egg yolk injected intravenously usually had no effect on liver volume, intragallbladder pressure and blood pressure. Emulsified olive oil injected intravenously in doses that increase the liver volume caused an artificial or mechanical rise of the intragallbladder pressure. From 3 to 5 cc. of a 0.2 per cent solution of hydrochloric acid and 10 cc. of a 5 per cent solution of sodium chloride, as well as fresh pancreatic juice (from 10 to 50 cc.), had no effect on the gallbladder when injected intravenously. Bile or bile salts injected intravenously tended to decrease the tone of the gallbladder. Olive oil and egg yolk digests were too toxic to use intravenously for their work. When such digests were extracted by the method for obtaining cholecystokinin from the duodenal mucosa, no gallbladder excitant was obtained. Oleic acid (from 1 to 5 cc.) and glycerin (from 3 to 5 cc.) given intravenously had no effect on the gallbladder or liver volume. Chyle, containing from 1 to 2.5 per cent fat and obtained from a dog after being fed egg yolks and cream, on being injected intravenously in amounts of from 10 to 120 cc. did not cause the gallbladder to contract and evacuate in anesthetized or unanesthetized dogs.

Effect of Epinephrine on Normal Iris.—Sawyer and Schlossberg state that epinephrine, if instilled for a sufficiently long time into the conjunctival sac of normal cats or of rabbits, exerts an effect on the muscles of the iris. The effect of minimal doses of instilled epinephrine in cats is to cause a constriction of the pupil. Larger amounts of the drug produce a distinct mydriasis in the instilled eye, which is in some cases preceded and followed by a period of contraction. Previous removal of the nictitating membrane in cats greatly increases the effect of epinephrine instilled into the otherwise normal eye. The authors took measurements of the pupils by means of a millimeter scale held close in front of the eyes and at right angles to the vertical pupillary opening. The eyes were subjected to a standard illumination. The epinephrine solutions for instillation were made up fresh for each experiment; 1:10,000 and 1:2,000 dilutions were employed. The solution was instilled in only one eye; the other was used as control. The instillation was made by holding apart the eyelids and dropping in a sufficient amount of solution to flood the eyeball. Every few minutes the instilled solution was removed by wiping the eye with cotton and fresh drops were added. The time during which the epinephrine solution was kept in contact with the conjunctiva varied from five to thirty minutes. Intravenous injection of epinephrine into a normal animal showing contraction of the pupil of one eye from a previous instillation of epinephrine produced a more striking and more persistent mydriasis in that eye than in the normal one. Intravenous injection of epinephrine into a normal animal showing dilatation of one pupil from a previous instillation produced in the instilled eye a more marked mydriasis than in the other eye. In this instance the mydriasis of the instilled eye remained for a much longer time after the normal pupil had reached its original diameter.

American Journal of Psychiatry, Baltimore

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Importance of Small Blood Vessels of Brain in Psychiatric Problems. N. W. Winkelman, Philadelphia.—p. 775.
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American Journal of Surgery, New York

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Prefibrosis at the Vesical Neck: Its Pathologic Status and Clinical Significance. J. A. Hyams and S. E. Kramer, New York.—p. 19.

Vesicovaginal Fistula Adherent to Right Pubic Ramus: Management of a Difficult Case. L. E. Phaneuf, Boston.—p. 29.

*Biologic, Bacteriologic and Clinical Study of Larval or Maggot Therapy in Treatment of Acute and Chronic Pyogenic Infections. G. C. Weil, R. J. Simon and W. R. Sweadner, Pittsburgh.—p. 36.

*Selective Therapeutic Pneumothorax in Acute Pulmonary Suppuration. R. A. Bendove, New York.—p. 49.

Diagnostic Novocaine Block Followed by Sympathectomy for Relief of Amputation Stump Pain: Report of Case. R. B. Drury and H. H. Schwarzell, Columbus, Ohio.—p. 55.

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Endocrine Factors Related to Genital Development. W. Engelbach, New York.—p. 72.

Metabolism of Spermatozoa in Semen. J. A. Killian, New York—p. 76.

*Internal Drainage: Its Significance in Prevention and Treatment of Postoperative Pulmonary Atelectasis. M. L. Lubin, San Francisco. —p. 80.

*Complete and Permanent Removal of Toe Nail in Onychogryposis and Subungual Osteoma. P. W. Lapidus, New York.—p. 92.

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Intragastric Polypus: Report of Case. D. L. Borden, Washington, D. C.—p. 115.

Primary Carcinoma in Vermiform Appendix: Report of Case. Marian Frauenthal and R. I. Grausman, New York.—p. 118.

Duplication of the Bowel. M. K. Smith, New York, and H. Cohen, Brooklyn.—p. 120.

Duplication of Gallbladder: Case Report with Review of Literature. F. G. Slaughter and H. H. Trout, Roanoke, Va.—p. 124.

Studies on Effect of Splenectomy on Genitalia of White Mice. L. Zweibel, Newark, N. J.—p. 126.

*Tuberculosis of Thyroid: Case Report and Review of Literature. A. Van Ravenswaay and A. C. Van Ravenswaay, Boonville, Mo.— p. 128.

Chordoma of Third Lumbar Vertebra: Report of Case. R. Zollinger, Cleveland.—p. 137.

Solitary Cyst of Kidney: Excision of Cyst with Suture of Kidney. A. R. Stevens, New York.—p. 140.

*Diverticulosis and Diverticulitis. C. W. Barrett, Chicago.—p. 143.

Celluloid Correction Leggings for Bowlegs or Knock Knees. E. D. McBride, Oklahoma City.—p. 148.

Larval Therapy in Pyogenic Infections.—Weil and his associates used maggot therapy in twenty-nine cases of a variety of pathogenic organisms, such as Streptococcus hemolyticus, staphylococcus, pneumococcus, Bacillus tuberculosis, B. coli and B. welchii. Included in this group of infections were felons, tuberculous inguinal adenitis, large areas of cellulitis, infected abdominal incisions following appendical abscess, infected amputation stumps, including also six cases of gas bacillus infection. The entire group of patients except one made splendid recoveries with good return of function. Considerable work must yet be done to place the therapy on a practical basis. The authors suggest the name "larval therapy." No detrimental effects or complications have developed from the use of larvae prepared by their present method of sterilization. The authors believe that the use of an iodine solution to sterilize the partly grown maggots that show contamination after egg sterilization, just before they are implanted in the wound, is of great value. They have placed the time element of implantation on a practical working basis. They did not encounter opposition from their patients. Their results compare favorably to any other form of treatment and in most instances are far superior. Its value in the treatment of gas bacillus infection and other soft tissue infections is exceptional. They have never observed any deleterious activity of the larvae on normal viable human tissues. The larvae show an unusual activity against abnormal or malignant structures. The authors believe that, aside from the scavenger action, the larvae produce a definite excretory proteolytic substance which hastens liquefaction of devitalized tissue.

Pneumothorax in Pulmonary Suppuration.—According to Bendove, the difference in the elasticity and consistency of the diseased and healthy lung tissue as well as the difference in the intrapulmonary and intrapleural pressures make it possible for the air introduced into the pleural cavity to localize over the diseased portion without curtailing much of the function of the nondiseased portion in the treated lung. This selective type of pneumothorax can be instituted only in recent cases of pulmonary suppuration when the lesion is soft and plastic. Every case of acute pulmonary suppuration should first be treated expectantly, but, if no spontaneous cure has occurred within four weeks after the diagnosis has definitely been made, active surgical intervention is indicated, and pneumothorax of the selective type is the least radical and most effective therapy at that time. A successful selective pneumothorax immobilizes the diseased portion without reducing the vital capacity, stimulates drainage, entails little respiratory and circulatory changes and causes little discomfort to the patient both at the initiation of the treatment as well as at the subsequent reinsufflations. The insufflatory amount should vary from 150 to 250 cc., and the intervals from three to five days. As the patient improves, the periods between insufflations are increased. The collapse should be maintained at least three months after the abatement of all subjective symptoms. In cases of chronic pulmonary suppuration with indurated rigid lesions and pleuretic adhesions, the selective action of artificial pneumothorax can never be elicited. Pneumothorax alone is of little therapeutic value in such cases, though it still finds its use as a preparatory procedure to radical thoracic surgery.

Internal Drainage and Atelectasis.—The prophylaxis and treatment of postoperative pulmonary atelectasis demands a clear understanding of the mechanism of its etiologic factors; namely, internal drainage. By internal drainage, Lubin means the movement of secretions from place to place within the tracheobronchial tree so that bronchi are occluded and infection spreads. The movements of these secretions are dependent on the posture of the patient, the nature and quantity of the tracheobronchial secretions and the size and course of the bronchial stems. Buccal and nasal secretions, by gravitating into the tracheobronchial tree even during the presence of the cough reflex, play a significant part in the production of pulmonary atelectasis and pneumonia. The early recognition of postoperative pulmonary atelectasis is important for two reasons: (1) it allows an earlier institution of treatment and facilitates a more prompt return of the atelectatic lobe to normal, and (2) it obviates the dreaded postoperative pneumonia which may occur in atelectasis of longer duration. The administration of postural exercises, carbon dioxide inhalations and expectorants are of proved value in the treatment of postoperative pulmonary atelectasis. Bronchoscopy, in specific instances, deserves a place in the armamentarium for the prophylaxis and treatment. An appreciation of internal drainage and the proper application of its fundamental factors can diminish the incidence of postoperative pulmonary atelectasis and postoperative pneumonia.

Removal of Toe Nail.—Lapidus offers a plastic operation for complete and permanent removal of the toe nail in cases of onychogryposis, subungual osteoma and any deformity of the toe nail in which complete removal is indicated. The operation consists of a U-shaped incision surrounding the toe nail, the free ends of the U extending proximally to the head of the basal phalanx. Another slightly concave incision, opened distally, is made through the skin, covering the root of the nail. This incision crosses the long axis of the toe and connects the two sides of the U. The dorsal structures, consisting of the edge of the skin around the nail, the matrix of the nail, and the nail itself, are entirely removed. About one half the distal portion of the terminal phalanx is exposed subperiosteally and resected. This leaves a short dorsal and long plantar flap. The plantar, tongue-shaped flap is turned over the stump of the terminal phalanx and sutured to the shorter dorsal flap. In cases of primary union of the wound the patient may resume his work in from two to three weeks, wearing the usual shoes.

Tuberculosis of Thyroid.—Tuberculous lesions of the thyroid have been reported in from 4 to 12 per cent of people

dying of active tuberculosis and in an average of 0.34 per cent of the thyroids removed at operation for all causes. The Van Ravenswaays state that, of the 107 cases reported in the literature, active tuberculosis was observed elsewhere in the body in fourteen cases. Among the factors that may be concerned in the development of this condition are preexisting goiter, the presence of lymphoid tissue within the thyroid, hyperthyroidism and a normally high tissue resistance to tuberculosis. Clinically, the types of lesion seen vary between two extremes: a necrotic type with caseation or liquefaction and a fibrotic type associated with giant cells and lymphoid cells. The preoperative diagnosis is possible only by aspiration of a cold abscess or with material obtained from a draining sinus. Not infrequently there are lesions in the thyroid that may be confused with tuberculosis. The authors report a typical case of tuberculosis of the thyroid in a man, aged 43.

Diverticulosis and Diverticulitis.—Barrett believes that constipation, putrefactions, infections and irritations produce changes in the intestine that make it subject to diverticulosis. By keeping the intestinal tract fit, changes that favor the development of diverticulosis may be avoided. Diverticulosis furnishes pockets which become filled with fecal masses, stercoroliths, foreign substances and bacteria, which result in reactions known as diverticulitis and peridiverticulitis. Bacteria invade the intestinal wall at such distances as to make "paradiverticulitis" an appropriate term for the resulting reaction. The reactions in the intestinal wall result in spastic and organic obstruction or stenosis. The passing of bacteria through the thinned diverticula or the thickened infected or ruptured intestinal wall leads to peritoneal and mesenteric infection. Infections from this intestinal source are not infrequently causes of arthritis. When diverticulosis has once developed, great care should be exercised to avoid excess of food, irritating foods and foods containing small sharp seeds. The bowel should be kept empty and harmful bacteria reduced to a minimum. Enemas and careful manipulations should be used to free the diverticula of stercoroliths, foreign bodies and bacteria. Uncomplicated diverticulosis is not incompatible with comfort and good health. Diverticulosis favors the development of intestinal and diverticular flora which invade the intestinal wall and may pass through it, resulting in peritoneal and other infections, or may be picked up by the blood or lymph streams and may be the source of arthritis. Diverticulosis and moderate forms of diverticulitis and peridiverticulitis, and even paradiverticulitis may be treated by nonsurgical methods. Surgery may be required to combat complicated conditions. One may reasonably expect to see surgery grow in favor for the less severely complicated cases as one's understanding increases, yet at present caution and conservatism are the watchwords, and one must be sure that the patient will stand the operation.

Annals of Surgery, Philadelphia

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Cysticercus of Brain. S. S. Allen and H. W. Lovell, Ann Arbor, Mich. —p. 1.
Chondroma of Intervertebral Disks. B. J. Alpers, F. C. Grant and J. C. Yaskin, Philadelphia.—p. 10.
Primary Hemangioma of Spine. L. Barnard and R. G. Van Nuys, Oakland, Calif.—p. 19.
*Posttraumatic Painful Osteoporosis. R. Fontaine and L. G. Herrmann, Strasbourg, France.—p. 26.
*Irradiation in Carcinoma of Breast. I. I. Kaplan and R. Rosh, New York.—p. 62.
Sarcoma of Stomach. J. L. Ransohoff and T. R. Dickson, Cincinnati. —p. 68.
*Partial Hysterectomy and Use of Stump of Uterus to Support Bladder in Vaginal Operation for Prolapse. G. P. LaRoque, Richmond, Va. —p. 74.
*Pilonidal Sinus. M. Weinstein, Long Island City, N. Y.—p. 80.
Syphilitic Leg Ulcers: Clinical Features Presented by One Hundred Cases. R. A. Cutting, New Orleans.—p. 85.

Posttraumatic Osteoporosis.—Fontaine and Herrmann review the literature on the treatment of posttraumatic osteoporosis and report the results that they obtained in treating their twenty-two patients. They conclude that posttraumatic osteoporosis is a disease entity with characteristic roentgenologic changes in the three main stages of the evolution of the disease. The posttraumatic osteoporosis which is left untreated usually results in an ankylosis of one or more of the joints in the region of the porotic bones. Operations on the sympathetic nervous system offer a rational and effective surgical treatment for this disease entity. Cases of posttraumatic osteoporosis treated by sympathectomy during the initial stages of the disease respond quickly and the undesirable sequelae of the disease are prevented. Periarterial sympathectomy is usually sufficient for cases of posttraumatic osteoporosis when it is limited to the distal part of the extremities. Cervical and lumbar sympathetic ramisection should be reserved for the extensive forms of the disease.

Irradiation in Carcinoma of Breast.—Kaplan and Rosh report the results of irradiation and surgery in 270 cases of cancer of the breast that they treated from 1924 to 1930. In their service they have found postoperative irradiation of value in prolonging the life of the patients and in preventing recurrences. Radiation therapy alone has proved of value for inoperable cases and in several chosen operable ones. Judgment in choosing cases and proper technic in treatment are essential for attaining good results. The technic that they believe will give the best results is a combination of external irradiation over the local area involved and the adjacent lymphatic drainage tissues, together with interstitial treatment with properly designed and filtered radium needles or tubes, as described by Kaplan, by Adair, and by Lee and Pack. As in all surgical procedures, the technic employed must be scientifically carried out by those trained in such work; mediocre attempts at irradiation are as harmful as mediocre surgery.

Partial Hysterectomy and Use of Uterus Stump.—LaRoque describes an operative procedure for the relief of cystocele which is as follows: The cervix is pulled down in the usual way and amputated nearly up to the internal os with an electric cautery knife. The cervix is held steady. The vaginal mucosa is divided from a point three-fourths inch behind the meatus almost to the point of cautery amputation. The vaginal mucosa is dissected off around to the side. The bladder is pushed up by a gauze covered finger and with the aid of scissors and pushed upward until the peritoneum comes into view. The peritoneum is divided in the usual way, and the fundus is caught either with the finger or a tenaculum and pulled into the vagina as traction is released on the cervix. A large or small piece of the uterus is excised, including the fundus and all the endometrium, leaving only enough uterine wall to bring together by suture and place under the bladder for support. The edges of the uterus are held in neat apposition with mattress sutures. The stump of the small piece of remaining uterus is interposed between the bladder and the vagina. For this purpose the figure-eight stitch prevents bleeding and subsequent accumulation of blood in the space after operation. Finally, the edges of the incision in the vagina are brought together by interrupted sutures. Perineorrhaphy is then performed. The author has performed this operation for varying degrees of prolapse in women ranging in age from 36 to 65 years. The appearance at the conclusion of the operation and nearly a year later has been satisfactory.

Pilonidal Sinus.—Weinstein's suggestions for permanent removal are based on thirteen cases in which operation was performed by him. The differentiation of pilonidal sinus from fistula-in-ano is readily made by the absence of granulation tissue and the upward direction on probing. Pilonidal sinus is a special local downgrowth of epithelium, originating from the true skin. A large section of the tissue with a broad base and narrower superficial skin surface will help to prevent recurrence. If necessary, periosteum of the sacrum and coccyx, and gluteal fascia are removed when involved. No attempt should be made to eliminate dead space completely. Local infiltration anesthesia is induced with 1 per cent procaine hydrochloride with epinephrine chloride. The ischemic field produced permits easy recognition of the outermost regions of the lesion. An elliptic incision is carried well beyond the sinus opening and all scars of previous operations, extending through the skin and into the subcutaneous adipose tissue. The scalpel is then tilted at an angle to undermine the skin and a thin layer of fat, for a distance of from one-half to three-fourths inch. Further dissection is performed in an oblique plane so that the base of the excised tissue is much larger than the superficial skin covered portion. In the deep aspect of the wound, the dissected mass is stripped from the periosteum of the sacrum and coccyx in the midline, and on the sides from gluteal fascia covering the gluteal muscles. From four to five tension sutures of the Stewart

type coapt the skin and grasp a portion of underlying subcutaneous tissue. A small cigaret drain is placed in the lowermost angle. No attempt is made to approximate subcutaneous tissue, gluteal fascia or muscles, as individual layers.

Archives of Neurology and Psychiatry, Chicago

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Surgical Anatomy of Sensory Root of Trigeminal Nerve. L. Davis and H. A. Haven, Chicago.—p. 1.
*Variations in Skin Anesthesia Following Subtotal Resection of Posterior Root: Report of Twenty-Six Cases Illustrating a Series of Variations. H. Wilkins, Oklahoma City, and E. Sachs, St. Louis.—p. 19.
Tic Douloureux: Anatomic and Clinical Basis for Subtotal Section of Sensory Root of Trigeminal Nerve. W. G. Spiller and C. H. Frazier, Philadelphia.—p. 50.
Effect of Roentgen Rays on Central Nervous System: Results of Large Doses on Brains of Adult Dogs. R. S. Lyman, Shanghai, China; P. S. Kupalov, Leningrad, U. S. S. R., and W. Scholz, Munich, Germany.—p. 56.
Chromatolysis of Efferent Neurons. F. D. Geist, Madison, Wis.—p. 88.
*Status Marmoratus: Etiology and Manner of Development. K. Löwenberg, Ann Arbor, Mich., and W. Malamud, Iowa City.—p. 104.
*Amyotrophic Lateral Sclerosis Complicated by Subacute Combined Degeneration of Cord: Clinical and Pathologic Report of Case. G. B. Hassin, Chicago.—p. 125.
Effect of "Habituation" on Blood Pressure in Schizophrenia. H. Freeman, Worcester, Mass.—p. 139.
*Factors Influencing Experimentally Produced Convulsions. H. M. Keith, Rochester, Minn.—p. 148.
Cholesterol and Lecithin Content of Blood in Cryptogenic Epilepsy. I. Rosen, Frances Krasnow and J. Notkin, New York.—p. 155.
Incubation Period of Clinical Neurosyphilis. H. H. Hopkins, Baltimore.—p. 158.

Variations in Skin Anesthesia.—Wilkins and Sachs record a series of twenty-six cases in which a section of the posterior root for trigeminal neuralgia was done and in which the sensory loss has been atypical. The portion of the posterior root carrying the ophthalmic fibers is frequently not a separate bundle of fibers. The authors' work confirms that of Frazier and Whitehead that the arrangement of fibers in the posterior root varies and that the fibers interlace or cross. Though some fibers were left in areas in which the patient had pain, the fibers to the area in which the "trigger zone" existed were always cut, and only one of their patients has had a recurrence, thus far, as a result of leaving some fibers. This may mean that some of the pain in cases of trigeminal neuralgia is referred pain. This view has been expressed frequently in regard to the pain in the first division of which patients complain, and it may also be true of pain in the other divisions.

Status Marmoratus.—Löwenberg and Malamud present four cases, in three of which postmortem examinations showed, among other lesions, the presence of status marmoratus; in the fourth case the clinical picture and history were typical of the syndrome of status marmoratus. In the authors' cases the important features were as follows: 1. There was a negative family history and a normal interval between birth and the onset of the disease. 2. The clinical history of the onset of the disease and the histologic picture showed that the disease developed on the basis of an encephalitic process, most probably acquired. 3. The involvement was widespread, affecting the cortex as well as the basal ganglions, while in one of the cases the status marmoratus was present in the cortex and not in the ganglions. They conclude that, in view of their observations and a number of similar data reported by other observers, the original concept of the nature of this disease will have to be revised.

Amyotrophic Lateral Sclerosis.—Hassin reports in detail the case of a man, aged 48, who entered the Cook County Hospital because of inability to walk and rigidity of the left upper extremity. A study of the pathologic data justified a diagnosis of amyotrophic lateral sclerosis complicated by a degeneration of a sensory tract of fibers, the columns of Goll, and, to a lesser extent, those of Burdach. The author concludes that amyotrophic lateral sclerosis, essentially a motor nerve disorder, clinically may show sensory disturbances. Pathologically, it may be associated with degeneration of the sensory tracts, suggesting a combination with subacute combined degeneration of the cord. From the extent and intensity of the degeneration, one may assume that one morbid process arises after the other, both being caused by the same as yet unknown factor. The basal portions of the posterior horns of the gray matter of the spinal cord may be a part of the pathologic picture in atypical cases of amyotrophic lateral sclerosis and be responsible for the subjective and objective sensory disturbances occasionally observed in this morbid condition.

Experimentally Produced Convulsions.—Of the various acetone bodies tested, Keith observed that aceto-acetic acid and its sodium salt have the most pronounced effect in preventing thujone convulsions, experimentally produced in rabbits. The injection of acids (acetic, lactic, citric and hydrochloric) as such and of sodium pyruvate has a definite anticonvulsant effect under the conditions of the experiment, but they are less effective than aceto-acetic acid. Epinephrine, solution of pituitary double U. S. P. strength (surgical) and ampoules of pitressin greatly augment the convulsant action of thujone and the action of epinephrine, and pitressin persists for at least three minutes after intravenous injection. These drugs will cause a subconvulsant dose to become convulsant. Epinephrine eliminates the refractory period due to the administration of thujone. The administration of desiccated thyroid and thyroxine did not definitely increase the susceptibility of the rabbits to convulsions produced by thujone. The administration of insulin to rabbits with resulting hypoglycemia did not increase their susceptibility to convulsions. Large amounts of water by stomach tube, either alone or accompanied by intramuscular injection of pitressin, may possibly increase the animals' susceptibility to convulsions produced by thujone. There was a slight increase in the amount of water in the tissues of the brain of animals receiving pitressin.

Archives of Otolaryngology, Chicago

17: 1-134 (Jan.) 1933

Effect of Silver Nitrate on Nasal Mucosa of Rabbits. H. I. Lillie and J. H. Childrey, Rochester, Minn.—p. 1.
Comprehensive Roentgen Examination of Paranasal Sinuses. H. B. Philips, New York.—p. 8.
Primary Submucous Laryngeal Abscesses. J. D. Kernan and H. P. Schugt, New York.—p. 22.
*Erysipelas of Pharynx and Larynx. B. Katz, Los Angeles.—p. 30.
Mucosa of Maxillary Sinuses of Rabbit: Production of Experimental Eosinophilia by Stimulation of Nerve and by Trauma. P. R. Nemours, St. Louis.—p. 38.
Spontaneous Perforation of Sigmoid Sinus Following Mastoid Operation: Report of Three Cases. A. J. Smith, Yonkers, N. Y.—p. 43.
Postdiphtheritic Laryngeal Stenosis: Review of Literature and Report of Six Cases. C. H. Krieger, Louisville, Ky.—p. 49.
Variations in Temperature of Mucous Membrane of Nose. A. J. Cone, St. Louis.—p. 65.
*Primary Jugular Bulb Thrombosis: Study of Twenty Cases. J. L. Maybaum and J. L. Goldman, New York.—p. 70.

Erysipelas of Pharynx and Larynx.—Katz points out that erysipelas of the pharynx and larynx presents a definite clinical and pathologic entity, a diagnosis of which can be made without manifestations on the skin. If acute edema of the pharynx or larynx develops, with fever and general malaise, subsequent to or during acute tonsillitis or a cold, the disease should be considered as erysipelas, if streptococci are the causative germ. The milk-borne epidemics of sore throat were definitely reported by some as epidemics of erysipelas of the pharynx and larynx. The so-called septic sore throat, considered from the standpoint of the source of infection, manner of transmission, complications and bacteriologic resemblance, is identical with erysipelas of the throat. Treatment, in addition to symptomatic measures, should include serum and vaccine therapy.

Primary Jugular Bulb Thrombosis.—Maybaum and Goldman observed, in a study of twenty cases of primary jugular bulb thrombosis over a period of eleven years, that certain anatomic factors, such as a thin bony partition separating the middle ear from the bulb, a high dome and dehiscences, predispose to involvement of the bulb. In children or young adults with a history of an acute infection of the middle ear, a fluctuating fever, a progressive anemia, changes in the ocular fundi and evidences of a general infection otherwise unaccounted for, primary jugular bulb thrombosis should be suspected. The additional presence of a positive blood culture establishes the diagnosis. A majority of the cases follow a characteristic course, suggesting a clinical entity. Blood culture studies are of paramount aid in diagnosis. Those that the authors took before operation (nineteen of the twenty cases) were positive for Streptococcus hemolyticus. The following conditions must be considered in the differential diagnosis: acute tonsillitis, pneumonia, erysipelas, acute naso-

pharyngeal infections and pyelonephritis. In the surgical treatment, occlusion of the main channels of systemic invasion, especially of the torcular end of the diseased sinus, is of prime importance. An operation on the jugular bulb should be performed only if there is a continuance of bacteremia and symptoms, general or local, after the main channels have been obliterated. Extensive operations on the jugular bulb are seldom indicated. For a favorable outcome, early diagnosis and prompt surgical intervention, properly directed, are imperative.

Arch. of Physical Therapy, X-Ray, Radium, Chicago

14: 1-50 (Jan.) 1933

Physiotherapy: Essential Specialty in Medicine. J. E. Rueth, Milwaukee.—p. 5.
Comparative Value of Various Therapeutic Rays in Ophthalmic Diseases. O. B. Nugent, Chicago.—p. 11.
Air Therapy. W. T. Johnson, Philadelphia.—p. 19.
*Juvenile Paresis: Diathermy Hyperpyrexia in Malaria Resistant Patient: Case Report. N. H. Polmer, New Orleans.—p. 23.
Relationship of Colon Infection to Systemic Disease. L. J. Walker, Milwaukee.—p. 26.

Juvenile Dementia Paralytica.—Polmer reports the case of a boy, aged 12, presenting diagnostic criteria of juvenile dementia paralytica, in whom vigorous antisyphilitic treatment and malarial therapy were employed for eleven months without any subjective improvement or sufficient objective laboratory signs to warrant a diagnosis of an arrested case or a remission. After the administration of twelve diathermy hyperpyrexia treatments over a period of six weeks, the spinal fluid of the patient was serologically negative on two successive examinations, repeated ten days apart. The patient was discharged as improved seven weeks after the series of treatments were begun.

Canadian Public Health Journal, Toronto

24: 1-52 (Jan.) 1933

Serum Therapy of Streptococcus Infection. A. Wadsworth, Albany, N. Y.—p. 1.
Development of Provincial Mental Health Service. B. T. McGhie, Toronto.—p. 8.
Essentials in Treatment of Early Syphilis. S. C. Peterson, Winnipeg, Manit.—p. 14.
Incineration of Municipal Refuse. J. R. Menzies, Montreal.—p. 20.
Rôle of Radiology in Prevention of Cancer. G. E. Richards, Toronto. —p. 29.

Endocrinology, Los Angeles

17: 1-122 (Jan.-Feb.) 1933

Endocrine Studies: XXXV. Association of Hepatic Dysfunction with Thyroid Failure. A. W. Rowe, Boston.—p. 1.
*Exophthalmic Goiter Without Increased Basal Metabolic Rate. I. Bram, Philadelphia.—p. 23.
*Some Effects of a Glycerin Extract of Suprarenal Cortex Potent by Mouth: Preliminary Report. R. G. Hoskins and H. Freeman, Worcester, Mass.—p. 29.
Multiple Glandular Sclerosis: Addison's Disease and Basedow's Disease. K. Herman, Subotitza, Yugoslavia.—p. 36.
Chronic Adrenal Insufficiency Produced by Cautery. F. A. Hartman, Buffalo.—p. 43.
Diagnosis and Treatment of Hypogonadism in the Male. E. P. McCullagh, D. R. McCullagh and N. F. Hicken, Cleveland.—p. 49.
Some Chronic Effects of Anterior Pituitary Sex Hormone on Weights of Body, Ovaries, Uterus, Pituitary and Adrenal Glands. F. E. Emery, Buffalo.—p. 64.
Rôle Played by Thyroid Gland in Production of Gross Body Activity. C. P. Richter, Baltimore.—p. 73.
Case of Spontaneous Pigment Loss in Brown Leghorn Capon and Plumage Reaction to Thyroxine. Mary Juhn, Chicago.—p. 88.
Relationship of Iodine to Basal Metabolic Rate and to Changes in Thyroid Gland in Pregnant Rabbits: Experimental Study. J. D. Stewart and F. R. Menne, Portland, Ore.—p. 93.

Exophthalmic Goiter.—Bram discusses 220 cases of exophthalmic goiter without an increase above the conventional normal basal metabolic rate and without loss in weight. Of these patients, 74 were untreated; 8 had cases of protracted duration with so-called "burned-out" thyroid; 12 had been treated with iodine preparations prior to coming under the author's observation; 117 had undergone subtotal or total thyroidectomy and 9 had received excessive roentgen treatment. The data derived from these cases appear to indicate that a high metabolic rate is not imperative in the diagnosis of exophthalmic goiter. It appears that the disease is not synonymous with hyperthyroidism, and that the syndrome may occur without demonstrable thyroid excitation.

Glycerin Extract of Suprarenal Cortex Potent by Mouth.—Hoskins and Freeman treated ten schizophrenic patients, initially presenting low blood pressure, for ten weeks with glycerin extract of suprarenal cortex. The dosage was gradually increased from an equivalent of about 100 grains (6.5 Gm.) to 450 grains (29 Gm.) of fresh gland substance daily. The systolic blood pressure was increased in all cases. The average initial pressure was 105.7 and the final pressure 132.5 mm. of mercury. Similarly, the diastolic pressure was increased from 69 to 84 mm. The blood pressure returned to approximately the initial levels after the treatment was discontinued. There was an irregular increase in the weight from an average of 62.6 Kg. at the beginning to 65.4 Kg. at the end. There was also a fairly consistent increase in the red cell counts of about 300,000 on the average in each case. At the end the increase had fallen to about 150,000 cells above the initial level. There was evidence of early stimulation of the renal function with a later return toward initial levels. There was an apparently significant increase in the oxygen consumption rate, but this was not sustained. There was a slight downward trend in the nitrogenous bodies of the blood.

Nebraska State Medical Journal, Lincoln

18: 1-40 (Jan.) 1933

Early Diagnosis of Carcinoma of Cervix. H. Schmitz, Chicago.—p. 1.
Intravenous Use of Acriflavine in Treatment of Pyelitis and Cystitis; Case Report. A. Sachs and E. M. Walsh, Omaha.—p. 5.
*New Technic Designed for Electrocoagulation of Vascular Tumors. A. F. Tyler, Omaha.—p. 6.
Errors of Omission in Treatment of Head Injuries. J. J. Keegan, Omaha.—p. 9.
*Pathology, Diagnosis and Treatment of Tumors of Breast. H. H. Davis, Omaha.—p. 11.
Traumatic Surgery in Rural Hospital. C. G. McMahon, Superior.—p. 16.
Malignant Tumors of Uterus in the Young. A. A. Smith, Hastings. —p. 19.
Limitations of Iodine in Treatment of Goiter. R. H. Whitham, Lincoln. —p. 21.
Report of Committee on Medical Education and Hospitals. J. S. Welch, Lincoln.—p. 23.
Neoplastic Versus Inflammatory Infectious Disease of Intracranial Cavity: Report of Interesting Case in Which Causal Organism Was Influenza Bacillus. W. A. Bunten, Cheyenne, Wyo.—p. 25.
Tetanus: Case Report. F. M. Tushla, Auburn.—p. 27.

Electrocoagulation of Vascular Tumors.—Tyler states that vascular tumors that cannot be removed with the sharp scalpel can be readily removed by electrocoagulation. By employing his specially designed technic the operation can be bloodlessly and rapidly done. He uses two pointed active electrodes instead of one active and one inactive electrode, as is generally done. He places the two electrodes in contact with the tissue about 1.5 cm. apart, and the high frequency current is thus short circuited between them. In this manner the intense heat generated between the two electrodes is sufficient to congeal blood in large vessels and vascular spaces before the walls are opened. In this way the tissue is not separated until after it has been coagulated, and no bleeding occurs. In cases in which the shape of the tumor lends itself to amputation, a line may be coagulated across the base. This is accomplished by holding the two electrodes in contact with the tissues at one place long enough to coagulate the tissue between them and then moving to the next area. The author has also applied his technic in lobectomy of the lung. This technic makes the removal of the lobe bloodless and expeditious. One must thoroughly coagulate the bronchus and vessels before pulling the lobe away from its attachment. This type of coagulation can be done only with a current of from one million to one million eight hundred thousand frequencies per second. The higher frequencies cut too much and coagulate too little. The advantages of electrocoagulation by his technic are: accuracy of control, no bleeding, absence of pain, absence of afterpain and little scar tissue.

Tumors of Breast.—In his study of tumors of the breast Davis concludes that the breast is practically devoid of lesions before puberty. A solid freely movable tumor between the ages of puberty and 25 is most likely a fibro-adenoma and especially so if multiple. If single, one must suspect carcinoma and excise the tumor at once, rather than waiting to see if it will grow. Diffuse painful breasts, with the pain accentuated before menstruation and with no definite lumps but only a diffused nodularity that is tender, is probably mazoplasia. It is a physiologic process, is not surgical, has no serious sequelae and is treated by ovarian residue. If multiple

nodules appear, especially after the age of 25, it is most likely cystiphorous desquamative epithelial hyperplasia, which is of importance because it may become carcinomatous. These cysts are differentiated from solid fibro-adenomas by transillumination. If the cyst is single it should be excised and if multiple mastectomy should be done. Bleeding from the nipple indicates most commonly papilloma or carcinoma. If unassociated with a lump, it is probably the former. However, owing to its malignant tendency it should be excised and, if multiple, the entire breast should be removed. Retraction of the nipple is most commonly congenital, follows an acute inflammation of the breast or is due to carcinoma. If it has developed recently in a middle aged or elderly woman, a radical mastectomy should be performed. Any single painless lump of the breast should be considered as cancer until proved otherwise, and immediate biopsy should be advised.

Pennsylvania Medical Journal, Harrisburg

36: 231-304 (Jan.) 1933

*Neurodermatitis and Lichenification. O. S. Ormsby, Chicago.—p. 231.
*Diet in Disease. C. E. Ervin, Danville.—p. 238.
Keratoconus Corrected by Corneal Contact Glasses: Demonstration of Case. H. E. Thorpe, Pittsburgh.—p. 243.
Benign Neoplasms of Esophagus. Ellen J. Patterson, Pittsburgh.—p. 244.
Symposium on Infections of Upper Respiratory Tract: Influence of Upper Respiratory Tract Infections on Pulmonary System. T. McCrae, Philadelphia.—p. 247.
Id.: Upper Respiratory Tract Infections that Affect General System. A. J. Wagers, Philadelphia.—p. 250.
Pathologic Information from Tympanic Membrane. J. A. Babbitt, Philadelphia.—p. 254.
Economic Value of Periodic Health Examination. F. A. Faught, Philadelphia.—p. 261.
Nonoperative Treatment of Fractures of Shaft of Femur: Results of Fifty Consecutive Cases in Children and Adolescents. V. Mooney, Pittsburgh.—p. 264.

Neurodermatitis and Lichenification.—Ormsby states that prurigo nodularis (lichen obtusus corneus) is an entity and unrelated to lichen planus. Sufficient evidence has not as yet been presented to place the disorder as a nodular variety of lichenification. A chronic itching papular eruption of the axillae and pubes (Fox-Fordyce disease), originally considered a variety of neurodermatitis, is excluded from this group and should be classed as an entity. Giant or hypertrophic lichenification may be employed to designate those cases in which the process of lichenification is excessive and unusual lesions are produced. Verrucous lichenification as described by the author includes lichen planus hypertrophicus and lichen planus verrucosus of the English authors or hypertrophic lichen corneus or lichen verrucosus of the French. Some of these cases occur independently of lichen planus. Lichenification is an important factor in these lesions. There is no objection, therefore, in placing the group as examples of verrucous lichenification. Lichen planus hypertrophicus and verrucosus, however, should retain their positions as varieties of lichen planus. The term neurodermatitis should be applied and limited to the disorder described by Vidal as lichen simplex chronicus and by Brocq as neurodermatitis circumscriptus et diffusus or circumscribed pruritus with lichenification and diffuse pruritus with lichenification. The mosaic thickenings induced by scratching and rubbing in eczema, sensitization dermatitis, mycotic infections, lichen planus, scabies, prurigo, mycosis fungoides, leukemia, and lymphogranulomatosis, should be recognized as secondary lichenifications quite distinct from neurodermatitis. The author concludes that, as neurodermatitis frequently occurs in neurotic persons, an exhaustive search should be made to determine the provocative factors relating to these symptoms, and measures should be taken for their relief. In the localized patches, roentgen rays cautiously employed are of much value. Crude coal tar with Burow's solution has been of much service. Tricresol from a 25 per cent to a full strength solution for localized patches in the scalp, originally suggested by Stillians, is of great service. The internal administration of arsenic is valuable but should be done with all proper precautions.

Diet in Disease.—Ervin discusses in a general way the question of diet in disease. The public, as a whole, seems to expect dietary restrictions in all manner of disease irrespective of the nutritional requirements, and the profession has had a tendency to court the idea rather than to follow the best professional judgment. The author believes that both the public and the profession should share the responsibility of improper nutrition in disease. There is no advantage in the customary protein restriction in nephritis. In fact, the patients do better on a liberal intake of food including protein. He emphasizes the increased caloric requirements brought about by fever and gives the dietetic requirements in some nonfebrile diseases such as thyroid dysfunctions, gout, peptic ulcer and hypertension. The patient's appetite is the most valuable guide in determining what to give. The patient usually knows what his stomach will tolerate.

Rhode Island Medical Journal, Providence

16: 1-16 (Jan.) 1933

Management of Breech Delivery. P. Appleton, Providence.—p. 1.
Books—Shall They be Sterilized? H. E. Smiley, Providence.—p. 5.
Gastric Hemorrhage. J. F. Kenney, Pawtucket.—p. 10.

South Carolina Medical Assn. Journal, Greenville

29: 1-26 (Jan.) 1933

Some Eye Conditions Commonly Unrecognized or Mismanaged by General Practitioner. J. W. Jervey, Jr., Greenville.—p. 4.
Some Recent Advances in Surgery of Sympathetic Nervous System. A. T. Moore, Columbia.—p. 6.
Meningeal Lesions Complicating Aural Infections. M. R. Mobley and J. P. Price, Florence.—p. 14.
Primary Pulmonary Carcinoma. H. Rudisill, Jr., Charleston.—p. 18.

Southern Medical Journal, Birmingham, Ala.

26: 1-106 (Jan.) 1933

Diabetic Children. E. P. Joslin, Boston.—p. 1.
Mental Health of Children: Pediatric Responsibility. H. Casparis, Nashville, Tenn.—p. 7.
Medical Aspects of Child Behavior. Esther L. Richards, Baltimore.—p. 10.
Psychiatry and the General Practitioner. C. O. Cheney, New York.—p. 14.
Comments on Syphilis Problem in the United States. H. J. Morgan, Nashville, Tenn.—p. 18.
Use of Protein in Diet. W. S. McCann, Rochester, N. Y.—p. 22.
Diagnostic Value of Roentgen Ray in Certain Intrathoracic Diseases: Pleural Effusions, Bronchiectasis and Atelectasis. A. C. Christie, Washington, D. C.—p. 25.
Importance of Multidimensional Diagnosis and Correspondingly Comprehensive Treatment in General Practice. L. F. Barker, Baltimore.—p. 28.
Practicing Physician and Public Health. K. Emerson, New York.—p. 31.
Chief Duty of Health Officer. J. D. Applewhite, Macon, Ga.—p. 36.
*Local Infiltration Anesthesia in Obstetrics. J. P. Greenhill, Chicago.—p. 37.
Rôle of Cervix in Obstetrics and Gynecology. G. D. Royston, St. Louis.—p. 44.
Relations of Pathologist to Cancer Problem. B. T. Simpson, Buffalo.—p. 48.
Prophylaxis and Early Diagnosis of Carcinoma of Uterine Cervix. H. Schmitz, Chicago.—p. 54.
Clinical Features of Diverticulitis and Cancer of Sigmoid. E. Eliot, Jr., New York.—p. 58.
Carcinoma of Colon. I. Abell, Louisville, Ky.—p. 64.
Chronic Cardiospasm: Report of Fatal Case with Pathologic Findings. E. B. Freeman, Baltimore.—p. 71.

Infiltration Anesthesia in Obstetrics.—Greenhill presents a technic of local anesthesia which is indicated in dilation and curettement, spontaneous delivery, episiotomy and repair, suture of both recent and old lacerations, low forceps operations, cesarean section (both classic and cervical), Porro hysterectomy, anterior vaginal hysterotomy (vaginal cesarean section) and sterilization (both abdominal and vaginal). Because direct infiltration anesthesia is so much safer than all the other forms of anesthesia and so simple to use, it should be employed oftener than it is at the present time. There is no doubt that the increased use of local anesthesia will help to reduce the appalling number of unnecessary maternal deaths. His technic is as follows: In nearly all cases, his patients are given a hypodermic of ¼ grain (0.016 Gm.) of morphine and 1/200 grain (0.0003 Gm.) of scopolamine fifteen minutes before the infiltration of the local anesthetic is begun. The patient should be made as comfortable as possible during the operation. For the local anesthetic he uses a 0.5 per cent solution of procaine hydrochloride, although a 0.25 per cent solution is almost as effective. To this solution, after sterilization, he adds 2 drops of 1 : 1,000 epinephrine for each ounce. The amount of solution he makes depends on the type of operation to be performed. For small vaginal operations, such as episiotomy, repair of lacerations, dilation and curettement, and low forceps operations, not more than 4 ounces (120 cc.) is necessary. For cesarean sections between 6 and 8 ounces and in Porro operations between 8 and 10 ounces is necessary.

Southern Surgeon, Atlanta, Ga.

1: 265-345 (Jan.) 1933

*Symptoms and Operative Treatment of Carcinoma of Lower Bowel with Method for Elimination of Colostomy. W. W. Babcock, Philadelphia.—p. 265.
*Diagnosis and Treatment of Diaphragmatic Hernia, with Especial Reference to Selective Surgical Treatment. C. A. Hedblom, Chicago. —p. 275.
Injury of Laryngeal Branches of Vagus Nerve in Thyroid Surgery. W. H. Prioleau, Charleston, S. C.—p. 287.
Types of Reconstructive Surgery of Orbital Region. V. P. Blair, J. B. Brown and W. G. Hamm, St. Louis.—p. 293.
Gynecologic Backwash of Obstetrics, with Particular Reference to Displacements of Uterus. C. J. Miller, New Orleans.—p. 301.
*Complicating Lesions of Appendicitis. H. A. Royster, Raleigh, N. C. —p. 311.
Transurethral Prostatic Resection: Its Present Status and Its Future. M. Stern, De Land, Fla.—p. 317.
Suggestions for Treatment of Certain Fractures of Upper Extremity. L. V. Rush and H. L. Rush, Meridian, Miss.—p. 325.
Dropfoot from Infantile Paralysis and Cord Injuries Corrected by Campbell Bone Block Operation. O. L. Miller, Charlotte, N. C.— p. 328.
*Calcified Abdominal Lymph Node: Simple Method for Distinguishing Some Such Nodes from Stone in Midportion of Ureter. E. Floyd and J. L. Pittman, Atlanta, Ga.—p. 333.
Splenectomy for Hemolytic Jaundice. E. H. Hargis and H. E. Simon, Birmingham, Ala.—p. 334.

Treatment of Carcinoma of Lower Intestine.—Babcock states that carcinomas of the large intestine should be diagnosed early by the change in peristaltic activity, by melena, and by digital, proctoscopic and roentgen examinations. Offensive, bloody, mucous stools or intestinal obstruction usually indicate a growth of long standing. Operative excision, if the growth is not too far advanced, gives reasonable hope for recovery. From the ileum to the midsigmoid an intraperitoneal, or exterioration, excision and anastomosis, with careful attention to the blood supply to the retained bowel is the preferred type of operation. From the midsigmoid to the lower rectum, a combined abdominoperineal operation is preferred as permitting thorough exploration followed by radical removal of the involved segment of bowel with the tributary lymphatics as well as the preservation of an adequate circulation for the retained intestine, which cannot be obtained by the perineal operation. The author describes a simplified method of abdominoperineal resection in which colostomy is eliminated and the bowel is not divided or invaded until after the peritoneal cavity is sealed. With the higher rectal growths, the sphincters may be preserved; with the lower ones, a wide resection of the pelvic floor is necessary. In the cases in which he has used this operation, less shock and reaction have followed than after any radical type of operation the author has tried. The mortality in nonselected cases has been about 10 per cent. For the small, low-lying rectal carcinomas, with low infiltrative tendencies, a wide local excision through the enlarged anus may at times be adequate. He has had no experience with the metastases from anal growths to the inguinal lymphatics as described by Miles, but this possibility should be considered if the growth involves the sphincters. A properly made and sufficiently large perineal anus may be cared for with less derangement of the clothing than a colostomy and is easily controlled by a pad. The perineal opening also gives a better warning of an impending defecation than does the colostomy, and by digital examination one may obtain early evidence of a recurrence in the pelvis at a time when it may be effectively excised or destroyed.

Diagnosis and Treatment of Diaphragmatic Hernia.—Hedblom points out that thoracic symptoms and signs of diaphragmatic hernia may include substernal pain, dyspnea, cyanosis, palpitation, a feeling of oppression or of suffocation, dextrocardia and variable abnormal signs on percussion and auscultation. Abnormal symptoms and signs are chiefly such as are suggestive of mild gallbladder disease or of peptic ulcer and those of partial or complete obstruction often without abdominal distention. Positive diagnosis rests essentially on the roentgenologic demonstration of abdominal viscera in the thorax following contrast mediums or enemas. Abnormal shadows in the ordinary roentgenogram may be suggestive. Negative roentgenologic observations may be due to temporary reduction of the hernial contents. Operation for repair may be through a laparotomy or thoracotomy approach, or through a combination of the two. In the majority of cases the hernia may be reduced and repaired by any one of these routes. There are special advantages, limitations and indications for each, depending on the anatomic and clinical type of hernia. Special procedures for the closure of large or recurrent hernias include muscle and fascia plastic operations, shifting of the attachment of the diaphragm, and thoracoplasty in special cases. Differential pressure anesthesia is essential to obviate the dangers of open pneumothorax during operation, and inflation of the lung before closing the pleural cavity and aspirating the air later to restore the normal vital capacity of the opposite lung and to reinflate the lung on the side of the hernia. Respiratory insufficiency, especially in infants, intestinal obstruction and postoperative shock are the most common causes of death.

Complicating Lesions of Appendicitis.—According to Royster, first and foremost of all the complicating lesions of appendicitis stands peritonitis. It follows directly on perforation or gangrene of the appendix. The upper abdominal conditions most frequently associated with a pathologic appendix are gastric and duodenal ulcer, gallbladder infection and pancreatic disease. They constitute a vicious circle. Undoubtedly long continued infection of the appendix may lead to definite pathologic changes in the liver; infiltration around the radicles of the portal vein with degeneration of the cells and, in the chronic or more severely acute forms, infiltration also around the biliary radicles with surface markings of interstitial hepatitis. Inflammation of the portal vein or any of its branches is always a serious complication, and usually fatal. Unless thrombi or abscesses occur, there may be some hope. A disquieting complication is a subdiaphragmatic, or subphrenic, abscess. Acute gangrenous or suppurative appendicitis is responsible for the great majority of the cases. The abscess rarely forms before the eighth or tenth day. In toxic appendicular nephritis the only sign is albuminuria, seen in the rapidly progressive types of acute appendicitis and disappearing promptly after operation. There is no general edema and the albumin may be scanty. Hemorrhages from the stomach, genito-urinary tract or the intestine, if not due to associated organic diseases in the regions named, must be regarded as toxic in origin. Hematemesis may be a part of the toxic syndrome of appendicitis, most frequent in the so-called chronic type, but seen at times in the acute types, especially of the gangrenous form. Hematuria is not uncommon in cases of appendicitis associated with acute hemorrhagic nephritis, and in cases of contact—an inflamed appendix adherent to the kidney, ureter or bladder. Bleeding from the bowels may accompany appendicitis complicated by diarrhea with mucous discharge or come from a toxic ulceration of the colon in the form of copious hemorrhages. The author concludes that the pathologic complications of appendicitis may themselves prove to be more troublesome and more deadly than the local lesions in the appendix. The possibility of their occurrence and the realization of their danger must be kept in mind. It is the complications that kill.

Calcified Abdominal Lymph Node.—Occasionally one wishes to distinguish between a stone in the midportion of the ureter and a calcified lymph node in the abdomen without ureteral catheterization. Floyd and Pittman have recently devised a method to do this in selected cases. A roentgenogram of one of their patients showed a shadow, about 1 cm. in diameter, just below the crest of the ilium, in line with the right ureter. A second roentgenogram was taken after pushing the abdominal contents over and holding them in place with both hands. This showed the shadow, along with others, on the opposite side of the spinal column, demonstrating that it was not a stone in the ureter but most likely a calcified node in the abdominal cavity. At operation the authors found an acute exacerbation of a chronically inflamed appendix and calcification of the ileocolic lymph nodes.

United States Naval Med. Bulletin, Washington, D. C.

31: 1-102 (Jan.) 1933

Expiratory Force as Related to Submarine Escape Training. C. W. Shilling.—p. 1.
Vital Capacity and Its Relation to Chest Expansion. C. W. Shilling. —p. 7.
Traumatic Lung Lesions Produced in Dogs by Simulating Submarine Escape. B. H. Adams and I. B. Polak.—p. 18.
Duties of Medical Officer Afloat, United States Navy. J. W. Vann.— p. 21.

FOREIGN

An asterisk (*) before a title indicates that the article is abstracted below. Single case reports and trials of new drugs are usually omitted.

British Medical Journal, London

1: 87-128 (Jan. 21) 1933

Observations on Exophthalmic Goiter. W. H. C. Romanis.—p. 87.
Three Recent Cases of Encephalitis Lethargica. P. Frazer, introductory note by A. S. Barnes.—p. 90.
Pain Referred to Ear. E. Watson-Williams.—p. 92.
Latent Mastoid as Cause of Chronic Aural Sepsis. G. Chubb.—p. 94.
Treatment of Chronic Aural Suppuration with Iodine Powder. R. S. Stevenson.—p. 95.
Relationship of Syphilis and Yaws. D. B. Blacklock.—p. 97.
Mumps and Appendicitis. J. Donnelly and J. B. Oldham.—p. 98.

1: 129-172 (Jan. 28) 1933

Sight-Saving Classes. N. B. Harman.—p. 129.
Prevention of Poliomyelitis. S. Flexner.—p. 132.
Treatment of Recent Injuries. W. E. Tucker.—p. 135.
*Phagocytic Reaction in Hay Fever. D. Harley.—p. 138.
Recovery from Pneumococcic Meningitis: Notes on Case Treated by Felton's Serum. J. McAuley and F. M. Hilliard.—p. 139.
Segmental Hyperalgesia Associated with Hemoptysis. A. I. G. McLaughlin.—p. 140.
Acne Vulgaris, Symptom, Not a Disease. P. B. Mumford.—p. 141.

Phagocytic Reaction in Hay Fever.—In the course of examining films of Phleum pratense pollen stained with iodine, Harley observed a granular appearance of the substance of the grain. He prepared suspensions of these granules for phagocytic tests. The phagocytic index was determined in twenty-four normal and non-hay fever patients and in twenty-five hay fever cases. "Chiastic" counts were made in five cases. In twenty-three of the twenty-four non-hay fever bloods nearly all the granules were found to have been dissolved, the few remaining being recognizable inside the leukocytes. The phagocytic index was low, the average being 0.4. In twenty-two hay fever cases the index was comparatively high, and in addition there were certain numbers of granules unphagocytosed; the average index was 2.4. In three cases the indexes were normal or only slightly raised. The high indexes were from severe hay fever cases, but the converse did not always apply. All hay fever patients gave positive skin tests to Phleum, Dactylis and Holcus.

International Journal of Psycho-Analysis, London

14: 1-182 (Jan.) 1933

Phallic Phase. E. Jones.—p. 1.
Homosexuality in Women. Helene Deutsch.—p. 34.
Denial of Vagina: Contribution to Problem of Genital Anxieties Specific to Women. Karen Horney.—p. 57.
Question of Prognosis in Narcissistic Neuroses and Psychoses. L. P. Clark.—p. 71.
Family Reactions During Analysis of Case of Obsessional Neurosis. Marjorie E. Franklin.—p. 87.

Irish Journal of Medical Science, Dublin

No. **85:** 1-48 (Jan.) 1933

Study of Structure and Vascular Conditions of Human Corpus Luteum in Menstrual Cycle and in Pregnancy. Ninian McIntire Falkiner.—p. 1.
Disinfection of Water by Catadyn Process. J. W. Bigger and L. L. Griffiths.—p. 17.
Premedication with Nembutal. R. W. Shaw.—p. 26.
Observations on Use of Sodium Amytal and Nembutal. O. J. Murphy.—p. 38.
Biology for Medical Students. J. B. Gatenby.—p. 41.

Journal of Hygiene, London

33: 1-150 (Jan.) 1933

Bacteriologic Analysis of Winkles (Littorina Spp.) as They Arrive in Market. J. Eyre.—p. 1.
Dissimilarity of Results of Precipitin Titrations Performed with Constant Amount of Antiserum and with Constant Amount of Antigen. G. L. Taylor.—p. 12.
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Influence of Static Effort on Respiration and on Respiratory Exchange. T. Bedford, H. M. Vernon and C. G. Warner.—p. 118.

Journal of Pathology and Bacteriology, Edinburgh

36: 1-199 (Jan.) 1933

Familial and Bilateral Tumors of Carotid Body. W. H. Chase.—p. 1.
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Pathologic Action of Light: III. "Light Stroke" and Its Relation to "Heat Stroke." A. G. Levy.—p. 31.
Neoplasms in Fish: Report of Six Cases with Summary of Literature. A. Haddow and Isobel Blake.—p. 41.
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Production of Immunity to Vaccinia Virus by Mixtures of Immune Serum and Virus and Importance of Phagocytosis in Antivaccinial Immunity. R. W. Fairbrother.—p. 55.
Observations on Salmonella Agglutination and Related Phenomena. P. B. White.—p. 65.
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Production of Staphylococcic Hemolysin with Observations on Its Mode of Action. J. W. Bigger.—p. 87.
*Reticulo-Endotheliomatosis, Ovarian Endothelioma and Monocytic (Histiocytic) Leukemia. R. Gittins and J. C. Hawksley.—p. 115.
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Production of Tumors in Fowl by Carcinogenic Agents: (1) Tar; (2) 1: 2: 5: 6 Dibenzanthracene-Lard. P. R. Peacock.—p. 141.
*Pulmonary Tuberculosis with Bovine Type of Bacillus in Sputum: Fourteen New English Cases. W. M. Cumming and W. M. Foster, with report of two autopsies by R. O. Girdwood, and addendum on bacteria by A. S. Griffith.—p. 153.
Incidence and Correlation with Clinical Severity of Gravis, Mitis, and Intermediate Types of Diphtheria Bacillus in Series of Five Hundred Cases at Leeds. J. S. Anderson, K. E. Cooper, F. C. Happold and J. W. McLeod.—p. 169.

Ovarian Endothelioma and Monocytic Leukemia.—Gittins and Hawksley describe in detail a case of bilateral ovarian endotheliomas in an infant aged 1 year. This resembled a reticulo-endotheliomatous process not heretofore recorded. The neoplasms, though extirpated, were followed by general reticulo-endotheliosis with the blood picture of histiocytic leukemia and a high lymphocytosis of normal type. In reviewing the literature the authors observed that endothelioma of the ovary is a rare condition and several varieties are recognized, their case being somewhat different from those previously recorded. Including the one they describe, only twenty histologically authenticated cases of monocytic (histiocytic) leukemia are reported. The observation of focal neoplasia (ovarian endotheliomas) and general (histiocytic) leukemia in the same patient within a few weeks is offered by the authors as evidence of the essentially neoplastic nature of this type of leukemia.

Sarcosporidiasis in Cardiac Muscle.—Hewitt describes the histologic features of a specimen of normal cardiac muscle observed at the postmortem examination of a young woman who died as the result of an accident. After routine fixation in tap water formaldehyde the pieces were stained in bulk with Ehrlich's hematoxylin, counterstained with eosin, dehydrated, cleared, and embedded in paraffin. When the author had occasion to employ the material for teaching purposes, he noted the presence of abnormal structures. They were recognized as a sarcosporidial infection. The principal features were: (1) heavy infection in true muscle and in Purkinje's tissue; (2) uniformity in the size of the cysts; (3) well marked delimitation of the cyst wall into layers; (4) profuse trabeculation dividing the cyst into loculi; (5) presence of a few sporoblasts peripherally and many spores centrally; (6) absence of degenerative changes toward the center of the cyst; (7) semicircular shape of the spores; (8) presence of a nucleus and a doubtful nucleolus; (9) presence of acidophil and basophil granules, these being generally situated terminally; (10) normality of the surrounding cardiac muscle, and (11) normality of the adjacent Purkinje's tissue.

Tuberculosis with Bovine Type of Bacillus in Sputum.—Cumming and Foster present their method for the isolation and identification of tubercle bacilli of the bovine type from fourteen cases of pulmonary tuberculosis. It is as follows: A morning specimen of sputum is collected and an equal quantity of one normal sodium hydroxide solution is mixed with it for thirty seconds and centrifugated at 2,000 revolutions per minute for twenty minutes. If the specimen is more than usually

viscous, the mixture is incubated at 37 C. for twenty minutes before centrifugating. The supernatant fluid is decanted; the deposit is then roughly neutralized with three or four drops of normal hydrochloric acid solution, mixed, and seeded on four slopes of egg medium. The tubes are incubated, examined weekly and discarded in three months if no growth is obtained. In the few instances in which the sputum is "positive" on microscopic examination and yet no growth is present or in which, although microscopic and cultural examinations are negative, the clinical evidence strongly suggests that tubercle bacilli may be present in small numbers, the reverse method of concentration is employed, hydrochloric acid being used as the concentrating reagent and sodium hydroxide for neutralizing. From the 384 cases of pulmonary tuberculosis, twenty-two bovine strains were isolated. In any given case of pulmonary tuberculosis, the presence of tubercle bacilli of the bovine type seems to be of definitely unfavorable prognostic significance. The authors point out that the possibility of the occurrence of human-to-human and of human-to-bovine infection with the bovine type of the tubercle bacillus becomes increasingly more difficult to ignore. At the necropsy in two of the cases they observed that the route of infection was alimentary and that the lung lesion was indistinguishable from that due to the human type.

Lancet, London

1: 123-176 (Jan. 21) 1933

Migraine. M. Critchley and F. R. Ferguson.—p. 123.
Tuberculosis in Childhood: Its Etiology and Prognosis as Shown by Stomach Lavage Method of Obtaining Tubercle Bacilli. W. R. F. Collis and C. F. Brockington.—p. 127.
High Blood Pressure: The Problem of Its Control. C. B. Rossiter. —p. 132.
Immunization of Maltese Goat by Means of Cutaneous Vaccination. T. Zammitt and J. E. Debono.—p. 134.
Lymphadenoma with Relapsing Pyrexia: Case Associated with Erythremia. D. Hall.—p. 136.
Spontaneous Subarachnoid Hemorrhage: Congenital Intracranial Aneurysm. M. E. Shaw.—p. 138.
Hypodermic Injection Outfit in Private Practice. W. E. Waller.—p. 139.

1: 177-232 (Jan. 28) 1933

Anesthesia for Eutocia. F. Roques.—p. 177.
*Migraine. M. Critchley and F. R. Ferguson.—p. 182.
Observations on Gallstone Cases. E. R. Flint.—p. 187.
Dysentery as Cause of Sudden Death. Eileen Harvey.—p. 190.
Tuberculous Laryngitis: Importance of Early Diagnosis. H. Barwell. —p. 191.

Migraine.—Critchley and Ferguson state that migraine may be due to bilious, ocular, menstrual, cerebral or allergic factors. Despite an immense amount of research, the essential causation remains obscure. It seems certain that there must be at least two factors, "central" and "peripheral." They are inclined to regard migraine as a vasomotor manifestation associated with spasm of the cerebral arteries, most commonly the branches of the internal carotid, due to stimulation of the sympathetic fibers, either as the result of direct pressure or by way of the endocrine system, occurring in a susceptible person with the migrainous constitution and with precipitating factors. Success in treatment will depend on the ability to place a particular case of migraine in its proper category and to apply the appropriate remedy. The complete investigation of a patient with migraine will include: (1) a careful previous and family history and a minute study of the symptomatology; (2) physical and psychologic examination; (3) careful testing for ocular abnormalities; (4) roentgen examination of sinuses, sella turcica, gallbladder and gastro-intestinal tract; (5) full examination of the cerebrospinal fluid, including pressure readings; (6) biochemical investigations (blood sugar estimation, urine, alkali reserve), and (7) basal metabolic rate investigation. It is useless to try to fight off an attack; therefore the authors recommend retirement to a quiet darkened room as soon as possible, and the administration of 6 grains (0.4 Gm.) of an amidopyrine-barbital preparation, repeated in half an hour, or 15 grains (1 Gm.) of acetphenetidin and 5 grains (0.3 Gm.) of caffeine citrate, to be repeated, if necessary, at hourly intervals for three doses. Between the attacks some cases may be suitably treated with magnesium sulphate, dextrose and bile acids, theelin, thyroid, special diet or psychotherapy. For the severe cases that do not respond to conservative measures, the authors recommend a right subtemporal decompression.

1: 233-286 (Feb. 4) 1933

*Treatment of Burns and Scalds, with Especial Reference to Use of Tannic Acid. P. H. Mitchiner.—p. 233.
Idiopathic Aplastic Anemia: Analysis of Four Cases. F. G. Lescher and D. Hubble.—p. 239.
New Form of Bed Tent for Administering Oxygen and Carbon Dioxide. E. P. Poulton, with account of clinical oxygen-measuring pipet by E. P. Poulton and J. W. Shackle.—p. 244.

Treatment of Burns.—Mitchiner points out that, under the old bath and grease treatment, the average mortality was 39.6 per cent for burns and 18.8 per cent for scalds. In the early days of the trinitrophenol treatment the mortality was 39.7 per cent for burns and 7 per cent for scalds, and in the last five years of the trinitrophenol treatment the mortality was 15.5 per cent for burns and 7.5 per cent for scalds, whereas the adoption of tannic acid in October 1928 and its systematic use in subsequent years has reduced the mortality to 4 per cent for burns and 1.7 per cent for scalds. The author adds that during the period from 1929 to the present time, when tannic acid compresses have been used as the routine outpatient treatment for all burns and scalds, no deaths have occurred among the slighter cases, which average 800 a year and of which about one third are children under 10 years of age. There is, however, a seasonal incidence of approximately 3:2 during the winter months. The treatment of burns and scalds, following adequate cleansing of the damaged area, aims at lessening collapse by stopping the absorption of the bodies that cause this collapse and death in from twelve to forty-eight hours after the burn, and also at diminishing the loss of fluid from the burned area, which is so serious and so often fatal in the first six to twelve hours. A further aim is the prevention of toxemia from absorption of septic material from the infected burned area which may be manifested elsewhere, especially as septic bronchopneumonia, and cause death in from five to twelve days. The initial shock and suffocation cannot be affected by local treatment of the burned area, and the percentage of death from these causes can be ameliorated only by efficient first aid treatment by those present at the time of injury. The author believes that a stock solution of 2 per cent tannic acid and 1:2,000 corrosive mercuric chloride adequately fulfils the needs of the compress method. In order to meet the desirability of applying this solution warm to the burned area, it is his custom to keep it in a concentrated form and dilute it with the requisite amount of warm water. He does not advise keeping it at more than double strength, as he finds that more concentrated solutions are inclined to decompose more quickly, and the results obtained are therefore not as painless or as satisfactory as those given by the weaker solution. In order to meet the requirements of shops and the home, where burns are not frequent, he compounded a tablet containing 17½ grains (1.14 Gm.) of tannic acid, ½ grain (0.032 Gm.) of corrosive mercuric chloride and 1 grain (0.065 Gm.) of boric acid (excipient), which tablet dissolved in 2 ounces (60 cc.) of water gives a solution of the necessary strength though slightly muddy in appearance, owing to the presence of the boric acid, which, however, does not interfere in any way with its efficacy of coagulation. It can be used equally well for spraying when this method is preferred.

South African Medical Journal, Cape Town

7: 1-32 (Jan. 14) 1933

*Primary Purpura in Childhood. M. Witkin.—p. 3.
Headaches. R. Geerling.—p. 9.
Laboratory Aid in Public Health Administration. J. Pratt-Johnson.—p. 10.
When Should the General Practitioner Operate? A. Van Der Poel.—p. 13.

7: 33-68 (Jan. 28) 1933

Concentrated African Antivenom Serum: Its Preparation, Standardization and Use in Treatment of Snake-Bite. E. Grasset.—p. 35.
Recent Advances in Diagnosis and Treatment of Diabetes Mellitus. P. Bayer.—p. 39.
Ophthalmia Neonatorum. A. T. Thurston.—p. 42.

Purpura in Childhood.—Witkin points out that primary purpura is an uncommon disorder of childhood. In seven and a half years only eight cases were recorded in the Transvaal Memorial Hospital for Children. The sex incidence was equal. The etiologic factor is still unknown. Probably there is some bacterial or biochemical agent acting on the thrombopoietic system and endothelium of the capillary walls. A blood count

and Wassermann test should precede all other investigations. The diagnosis of purpura hemorrhagica is made on a history of recurrent hemorrhages, a low platelet count, prolonged bleeding time, and delay in clot retraction. The treatment is mainly symptomatic. Drugs are on the whole disappointing. Of these, epinephrine is one of the most valuable. Every effort should be made to eradicate a septic focus. The mild cases recover promptly with rest, avoidance of exposure and injury. Protein therapy, blood transfusions, serum therapy and roentgen irradiation of the spleen have but a limited sphere of usefulness. Splenectomy is the treatment *par excellence* in the chronic recurrent types. The author reports one case of splenectomy. Ligature of the splenic artery is the operation of choice in the severe acute forms, in which splenectomy may terminate fatally.

Archives des Maladies du Cœur, Paris

26: 153-248 (March) 1933

Influence of Experimental Asphyxia on Heart. C. Laubry, J. Walser and L. Deglaude.—p. 153.
Incomplete Auriculoventricular Dissociation with 2-1 Rhythm with Anticipation of Blocked Auricular Wave. E. Doumer.—p. 172.
Chronaxia and Modifications of Rapid Phase of Ventricular Electrocardiogram. A. van Bogaert.—p. 185.
*New Aspect of Question of Cardiac Hormones: Muscular Extracts in Cardio-Arterial Therapy. P.-N. Deschamps.—p. 223.

Muscular Extracts in Cardio-Arterial Therapy.—After reviewing briefly the various trends of investigation concerning so-called cardiac hormones, substances regulating the cardiac automatism, Deschamps discusses the cardiovascular action of the extracts of peripheral muscles, which have been prepared notably by Schwartzmann and by Fahrenkampf and Schneider. These extracts act less on the heart than on the vessels, especially the coronary vessels, and their action is, above all, vasodilatory. They constitute a medication for arterial spasms and its manifestations, essentially for angina pectoris and intermittent claudication from thrombo-arteritis and, in a measure, hypertension. The best results are obtained in the particularly spasmodic forms of angina pectoris, while forms in which organic changes dominate, especially cardiac insufficiency with dilatation of the heart or coronary thrombosis, give uncertain results or none at all. According to Drucker the extracts are indicated in the so-called ambulatory forms, in which walking is suddenly arrested by violent retrosternal oppression while the collapse and anguish are often lacking, the toxic forms and the vasomotor forms. In addition to their vasodilatory and antispasmodic action, some authors claim a cardiotonic and cardioregulating action for these extracts. Favorable results have been reported especially in cardiac decompensation and arrhythmia. The author compares the action of these extracts with digitalis and with hepatic and pancreatic extracts. The muscular extracts are usually administered orally but may be given intramuscularly; they have been given intravenously, primarily for disturbances of rhythm. Investigations indicate that the active substances in the muscular extracts are probably proteins similar to amino acids. Adenine nucleotides, adenine pentoside and adenosine triphosphoric acid are among the substances that have been isolated from the extracts by various authors.

Nourrisson, Paris

21: 65-128 (March) 1933

*Prandial Diarrhea in Breast-Fed Infants. A.-B. Marfan.—p. 65.
*Infection and Reinfection in Nurslings. L. Ribadeau-Dumas and Rault.—p. 79.
"Drop of Milk" Municipal Institute of Puericulture of Soerabaja (Java). D. P. R. Keizer.—p. 94.
Recent Changes in Preparation of Condensed Milk. G. Blechmann.—p. 101.

Prandial Diarrhea in Breast-Fed Infants.—Marfan discusses prandial diarrhea of breast-fed infants. Its distinguishing characteristic is the evacuation of stools toward the end of or immediately after each feeding. It usually starts in the first two weeks and recedes spontaneously about the fourth month. The stools are usually mucogrumose but may become liquid, both of which have a normal odor and reaction. Frequent eructations and regurgitations occur in prandial diarrhea and sometimes the evacuations are preceded by slight colics. In the severe forms the nutrition and weight increase may be disturbed. There are no serious complications. Prandial diarrhea is practically limited to breast-fed infants. It is not due to the bad quality of the milk ingested but to a special sensitivity of the infant's digestive tract to all human milk, to that of certain women (usually including its mother), or to that of its mother only. When the milk enters the stomach and the duodenum, exaggerated duodenobiliary and gastrocolic reflexes are produced and the violent peristaltic contractions result in an evacuation of the intestine. This special sensitivity is attributed by Alarcon to an exaggeration of the hypervagotonia of the new-born, by Weill to an anaphylactic state. The first step of the treatment should be to ascertain that the nursing periods are well regulated and that the mother's diet is correct. In the light forms, nursing at the breast should be continued and belladonna and bismuth subnitrate administered to calm the hyperexcitability of the digestive tract. A daily enema with a warm decoction of marshmallow root with a half teaspoonful of sodium bicarbonate is advised. In severe forms or in forms that persist despite this treatment, the same medication should be given and, in addition, mixed feeding should be instituted. If the infant is less than 2 months of age, one breast feeding daily is replaced by a bottle of unsweetened buttermilk or unsweetened condensed milk; if the improvement is not sufficient, two breast feedings may be replaced by bottles. If the nursling is more than 2 months of age, the buttermilk or condensed milk is diluted with a decoction of rice instead of pure water. When the diarrhea disappears, exclusive breast feeding may be resumed. If it reappears, one may return to mixed feeding. It is rarely necessary to replace breast feeding entirely by artificial feeding, and it should be deferred as much as possible.

Infection in Nurslings.—In a general discussion of infections in nurslings, Ribadeau-Dumas and Rault state that they are usually represented by a triad of symptoms always present in varying degrees: modifications of the thermal curve, of the weight curve and of the stools. In the nursling the first infection is always benign. It is marked by a general slight thermal elevation, arrest of growth and slight digestive disturbances. This syndrome is reproduced at the moment of reinfection, but it is always much more pronounced. At this point the drop in weight more than the degree of fever indicates the gravity of the infection. The severity of the syndrome of reinfection depends on the degree of passive immunity transmitted by the mother or of acquired immunity of the nursling. In the course of recurrent infections, the temperature and weight curves reach their maximum when the passive immunity is disappearing and the active immunity is beginning to be acquired. This is generally in the third quarter of the first year. The temperature curve, which exhibits higher and longer elevations at each attack or a progressive decrease in the height and duration of the elevations, is a guide to favorable or unfavorable prognosis. The weight curve is even more significant from this point of view. In nurslings, one type of infection exhibits many clinical forms, varying from the silent to the gravest forms.

Paris Médical

1: 213-228 (March 11) 1933

*Fifth Disease, or Epidemic Megalerythema. L. Tanon, M. Cambessédès and L. Lind.—p. 213.
Accidents of Spinal Anesthesia. R.-H. Martin and P. Halbron.—p. 217.
Radon in Weak Doses in Daily Therapy. S. Bernard.—p. 220.
*Treatment of Melitococcosis by Neoarsphenamine. J. Vidal.—p. 223.

Epidemic Megalerythema.—Tanon and his associates discuss the differential diagnosis of megalerythema. The erythema makes its first appearance as rose colored macules occurring on both cheeks. These merge so rapidly that the macular stage is often unnoticed and the first sign to attract attention is a diffuse redness spreading over both cheeks. The stage of confluence is followed within a few hours or days by a stage of involution. From one to four days after the appearance of the erythema on the face, it appears on the extensor surface of the forearms, stopping at the wrists but spreading to the upper arms. The buttocks and antero-exterior surface of the lower extremities are also affected, the trunk but rarely. The three stages of evolution are best seen on the forearm. The confluence of the macules into erythematous spots of the size of a palm is characteristic of the disease. In the involution stage the spots pale progressively, and often the centers pale while the borders remain rose, producing characteristic circinate figures, which are found in all typical cases of megalerythema.

The eruption may exist in different stages in different parts of the body, giving it a polymorphic character. One of its essential features is its alternate attenuation and accentuation. The disease lasts about ten days. It is benign, apyretic and without complications; therapy is useless. Megalerythema is distinguished from rubella by the confluence of the macules, the gradual evolution of the erythema and its persistence and reviviscence, the absence of adenopathies and a more benign general condition. Megalerythema may be confused with the erythematopapulous type of erythema multiforme. Erythema multiforme usually starts on the extremities instead of on the face and affects the backs of the hands and feet, its papules being elevated and infiltrated. Megalerythema is contagious and often epidemic, while erythema multiforme is probably not contagious. The only modification of the leukocytic formula in megalerythema is a slight eosinophilia, in rubella there is a hyperleukocytosis and increase in plasma cells, while erythema multiforme sometimes shows a slight leukocytosis.

Treatment of Melitococcosis by Neoarsphenamine.—Vidal has found neoarsphenamine efficacious in the treatment of melitococcosis, six out of eight cases having been favorably influenced by this therapy; one case was refractory to treatment, and in one case treatment was interrupted too early to determine the results. At first the neoarsphenamine was administered intravenously in doses progressing gradually from 0.15 Gm. to 0.6 Gm. given once a week. Later the initial dose was raised to 0.3 Gm. and the injections were given twice weekly, the maximum dose often not exceeding 0.45 Gm. The average total dose employed was from 2.5 to 3.5 Gm. Each injection is usually followed by a sudden drop in temperature, after which the febrile wave continues at a lower level until the temperature returns to normal. Injections given when the patient is almost apyretic sometimes produce slight thermic elevations (less than 1 degree), which the author regards as reactivation phenomena; they soon disappear. Injections should be continued until a stable apyrexia is obtained. The injections were usually started from one to two months after the beginning of the disease. In all but one case, cure was obtained within from one to three weeks after the first injection; the total duration of the disease varied from thirty-seven days to three months, but usually it was considerably less than three months. In one case it required twenty-five days to bring about defervescence and forty days to bring about complete thermic stability, but even in this case the total duration was only two months.

Archiv für Gynäkologie, Berlin

152: 447-691 (Feb. 22) 1933

*Crodel Method of Measuring Labor Pains. E. Frey and Doris Wenner.—p. 447.
Cause of Onset of Labor. O. L. E. de Raadt.—p. 467.
*Late Disturbances of Functions of Liver and Reticulo-Endothelial System After Eclampsia. F. G. Dietel and A. Polak.—p. 469.
Demonstration of Organic Iodine in Blood and Its Rôle in Normal and in Toxic Pregnancies. H. Eufinger and W. Schulte.—p. 479.
Ovarian Function and Calcium Metabolism. O. Bokelmann.—p. 492.
Degrees of Acidity of Vaginal and of Cervical Secretions. A. Bock and L. Wolf.—p. 501.
Myelitis and Spinal Cord Lesions in Their Relation to Pregnancy and Labor. W. Spitzer.—p. 517.
Reciprocal Action Between Ovary and Anterior Lobe of Pituitary Gland. A. von Schulcz.—p. 529.
Experimental Studies on Artificial Premature Sex Ripening. A. von Schulcz.—p. 537.
Effect of Puerperal Exercises on Biologic Changes and Types of Involution. X. Bronnikowa, B. Azletzky, A. Weleshewa, Z. Kowtun, A. Ssulimowa and F. Chanina.—p. 548.
Glycogen and Fat Content of Liver in Pregnant Albino Rat: Contribution to Question of Carbohydrate Metabolism During Pregnancy. O. Bokelmann and W. Scheringer.—p. 562.
Pathology and Symptomatology of Adenomyosis. H. O. Neumann.—p. 579.
Structural Genesis of Vaginal and Uterine Malformations. Erna Vilas.—p. 655.
Effect of Roentgen Irradiation on Blood Gases and Alkali Reserve in Cancer Patients. A. Gremme.—p. 667.
Content of Parovarian Cysts. K. Dierks and M. Becker.—p. 679.

Measuring Labor Pains.—Frey and Wenner made observations on twenty-eight parturient women in the Zurich clinic, utilizing Crodel's apparatus for the measurement of labor pains. By means of his apparatus, which is built on the principle of a tonometer, Crodel states that he is able to determine the force of an individual uterine contraction and estimate the working capacity of the uterus. Crodel proceeds on the assumption that the muscle possesses two properties, stiffening and thickening, appreciable on palpation. Stiffening represents the force and thickening the lifting power. The amount of work the uterus is capable of is represented by the formula: force times lifting power. The authors state that the data obtained by them in the twenty-eight parturient women possessed no clinical value. Four groups were considered separately: (1) primiparas, (2) multiparas, (3) those with premature rupture of the amniotic bag and (4) those without premature rupture of the bag of waters. The authors state that no relationship could be established between the determined contractile force and the number of contractions required in a given case to complete the first or the second stage of labor. Moreover, the method failed to throw any light on the question of the relation between the size of the child, the size of the pelvic outlet or of the cervical canal, and the fact that in one case the stage of dilatation or the stage of expulsion required more contractions than in another. The authors conclude that Crodel's method is of no value in prognosticating the progress of labor.

Liver and Reticulo-Endothelial System After Eclampsia.—Dietel and Polak point out that, in the past, studies of eclampsia have been principally concerned with kidney disease. In spite of the manifest importance of the liver in toxemias of pregnancy, this organ has received but little attention. More recent researches have established a pathologic bilirubinemia in acute eclampsia. The finding of a positive van den Bergh sign has been considered indicative of particularly severe damage to the liver. The authors investigated the question of persisting liver damage in posteclamptic women. The following tests were used: (1) bilirubin functional test, (2) levulose tolerance test and (3) the storing capacity of the reticulo-endothelial system for congo red. The Hijmans van den Bergh quantitative test was used and a retention of 15 per cent of the injected bilirubin at the end of three and one-half hours was considered pathologic. At the same time an independent study was made of the subjective complaints as well as of the frequency of disorders of the liver and of the biliary tract after eclampsia. A follow-up study was made of eighty-four posteclamptic patients. Of these, twenty-nine were examined, twenty-two made replies to a questionnaire and thirty-three failed to reply. The functional tests demonstrated that the storing capacity of the reticulo-endothelial system remained impaired up to nine years later. Latent icterus was demonstrable six years later, while levulose tolerance remained diminished four years later. These rather frequent observations of liver insufficiency were not demonstrable by urinalysis. Weakness was the most prominent subjective complaint and was present in twenty-eight of fifty-seven cases investigated. Backache, headache and cardiac symptoms were likewise complained of. Thirteen women developed gallbladder disease. The authors conclude that the liver suffers more damage in eclampsia than do the kidneys.

Deutsches Archiv für klinische Medizin, Berlin

175: 1-128 (Feb. 20) 1933

Absolute Tests of Gastric Function in Healthy Persons and in Patients with Ulcer. P. Martini and K. P. Becker.—p. 1.
*Glycine Treatment of Progressive Muscular Dystrophy: Origin of Creatine. S. Kostakow and A. Slauck.—p. 25.
Pulmonary Emphysema from Bronchial Inflation of Lung. A. Engelhard.—p. 38.
*Clinical Aspects and Roentgenology of Cardiac Thrombi. F. Besser and C. Schilling.—p. 50.
Azotemias in Weil's Disease and in Blackwater Fever. M. Georgopoulos.—p. 60.
*Observations in Case of Diabetes Insipidus et Mellitus. G. A. Lindeboom.—p. 74.
Potassium Content of Blood Serum During Cardiac Stasis and Following Elimination of Edema. H. G. Scholtz.—p. 90.
Heredity of Pernicious Anemia and Observations on Uniovular Twins. H. Frank.—p. 96.
Investigations on Carbon and Nitrogen Content of Human Sweat. K. Voit.—p. 108.
Symptomatology and Diagnosis of Rupture of Aorta and of Dissecting Aneurysm. R. Pannhorst.—p. 115.
Diagnostic Use of Peptolytic Ferments in Transudates and Exudates. J. Ammerschläger.—p. 124.

Glycine Treatment of Progressive Muscular Dystrophy.—Kostakow and Slauck report their observations on the effects of oral administration of glycine in seven patients with muscular dystrophy and in four persons without this

disorder. In the seven patients with muscular dystrophy they noted that the creatinuria was increased by several times its initial value. Parallel with this went a decrease in the absolute elimination of the preformed creatinine. After approximately four weeks the creatine elimination again reached its initial value and the metabolism approached normality. It seems that the phosphagen content of the muscles can be influenced with this amino acid. Whether, besides influencing creatine formation, glycine exerts yet other influences remains as yet undecided. On the basis of their metabolic studies, the authors conclude that muscular dystrophy results from the loss of the capacity to utilize creatine. Under the influence of glycine, the organism regains this capacity and the metabolism becomes normal.

Cardiac Thrombi.—Besser and Schilling discuss the clinical aspects of thrombi of the heart on the basis of cases reported in the literature and of cases of their own observation. They show that the clinical manifestations depend on whether the thrombus is located in the right or in the left heart, whether it is a free thrombus, and whether it is pedicled or mural. Cardiac thrombi are, as a rule, more frequent in the auricles than in the ventricles. The authors discuss the roentgenologic visualization of the thrombi of the heart and the diseases of the neighboring organs which are important in the differential diagnosis. They emphasize particularly that now cardiac thrombi will be more often recognized than was formerly the case, and that this is primarily owing to roentgenoscopy, eventually with the aid of kymography. However, it is necessary that the clinician and the roentgenologist cooperate, for in many instances the roentgenologic verification of the diagnosis is not possible without an exact knowledge of the clinical data.

Diabetes Insipidus and Mellitus.—Lindeboom relates the clinical history of a woman who had suffered from diabetes insipidus for several years and then developed diabetes mellitus. The author discusses several problems connected with this rare combination. He admits that, in the reported case, responsibility for the diabetes may be imputed to hypophyseal influences, which by way of the nervous regulation of sugar metabolism from the base of the third ventricle exerted an influence on the liver. But, in view of the insular aspect of the disturbance of the sugar metabolism, this does not seem so probable. The author is inclined to regard the condition as a pluriglandular disturbance of syphilitic origin, although a connection between the different functional disturbances is not perceptible. However, he considers the regular menstruation at the age of 55 additional evidence for an anomaly in the internal secretions of the patient. He shows that salyrgan has a diuretic effect in diabetes insipidus and that it is also capable of increasing the sodium chloride concentration of the urine to values that are extraordinarily high for diabetes insipidus.

Jahrbuch für Kinderheilkunde, Berlin

138: 249-372 (March) 1933

*Roentgen Irradiation in Tuberculous Meningitis. C. Wiener.—p. 249.
Is there a Method of Choice for Treatment of Hypertrophic Pylorostenosis? H. Willi.—p. 259.
Mineral Content of Blood of Children During First Year of Life. J. A. Kotikoff.—p. 280.
Significance of Influenza and of Pneumococcic Infection as mixed Infection in Scarlet Fever. Helene Ssawrimowitsch and W. D. Zinserling.—p. 319.
Experiences with Intubation. M. Hohlfeld.—p. 334.
*Therapeutic Use of Weed's Experiment in Canal Blockage in Cerebrospinal Meningitis. W. Mikulowski.—p. 347.

Roentgen Irradiation in Tuberculous Meningitis.—Wiener was induced to employ roentgen therapy in tuberculous meningitis by von Bókay's report, stating that five of seventeen patients with tuberculous meningitis had recovered as the result of roentgen irradiation. He followed the suggestions of von Bókay and administered comparatively high doses. The description of the nine cases in which the author employed roentgen treatment reveals that irradiation was never effective. Moreover, he does not even consider the method free from danger, because he always noted an exacerbation of the process after the first irradiation, and he had the impression that death had been hastened by this treatment. In trying to explain the discrepancy between his own unfavorable results and the results obtained by von Bókay, he points out that von Bókay's cases were all comparatively new, while his were somewhat advanced. Nevertheless, he has now completely abandoned the roentgen treatment of tuberculous meningitis.

Therapeutic Use of Weed's Experiment in Meningitis.—Mikulowski relates the clinical history of a boy, aged 11, noteworthy because the patient had had chronic cerebrospinal meningitis for more than a year and had not been given any medical treatment. Five acute attacks had been treated with home remedies and palliatives. During the sixth attack, which was unusually severe, the boy was hospitalized. The case is interesting from the clinical point of view because it shows the difficulty of diagnosing chronic cerebrospinal meningitis, for there was no increased temperature, the intervals between the different attacks were comparatively long, and the first examination of the cerebrospinal fluid was negative. However, the author emphasizes that this case demonstrated the diagnostic significance of Flatau's chromoneuroscopic reaction. After reviewing several other cases, in which cerebrospinal meningitis was characterized by successive attacks, and after evaluating the causes of this peculiarity, the author discusses Weed's experiment of increased cerebrospinal pressure following the injection of distilled water. Because the patient showed signs of hydrocephalus, and because the discharge from the cerebral ventricles was impeded and resulted in stasis, the author resorted to intramuscular injection of distilled water, and as a result the signs of blockage disappeared. The injection produced an increase of pressure in the cerebrospinal canal, and it not only facilitated the discharge of the fluid and the introduction of the therapeutic serum but also the equalization of the intracranial and intramedullary pressure.

Klinische Wochenschrift, Berlin

12: 289-328 (Feb. 25) 1933

Problem of Etiology of Influenza in Light of Recent Investigations. K. Meyer.—p. 289.
Composition and Formation of Inorganic Bone and Tooth Substance. R. Klement and G. Trömel.—p. 292.
Insulin and Diabetes Problems. A. Gigon.—p. 294.
Roentgen Demonstration of Transmission of Pulsation from Artery to Vein. H. Schade and T. Wohleben.—p. 296.
*Demonstration of Anti-Pernicious Anemia Principle in Gastric Juice of Patient with Stenosis of Small Intestine and with Blood Picture of Pernicious Anemia. Annemarie Schlesinger.—p. 298.
Acid Intoxication of Organism by Roentgen Rays. K. Adler.—p. 300.
Resorption of Salicylic Acid by Human Skin. M. Nothmann and M. Wolff.—p. 302.
*Plasma Coagulation Phenomenon of Staphylococci. H. Gross.—p. 304.
Investigations on Carotene-Vitamin A in Human Organism. F. Kauffmann and W. von Drigalski.—p. 306.
Injury by Vitamin A. W. von Drigalski.—p. 308.
Differences in Growth During Nursling Period of White Mice. D. Gostimirović and W. Koch.—p. 309.
Muscular Cycle of Human Uterus. W. Weitz.—p. 310.

Blood Picture of Pernicious Anemia in Stenosis of Small Intestine.—Schlesinger reports the clinical history of a woman, aged 54, with stenosis of the small intestine and with the symptoms of pernicious anemia. The gastric juice, which had a normal acidity, was tested for the presence of the antianemic principle. It was found that, in contradistinction to the case with multiple stenosis of the small intestine, described by Castle, the antianemic principle was present in this woman. The author concludes from this observation that the hyperchronic megalocytic anemia, developed on the basis of the stenosis of the small intestine, was not produced by the action of the intestinal stenosis on the gastric function or by the absence of the deficient resorption of the antianemic factor, and that therefore the presence of an anemia of the pernicious type is not dependent on the absence of the antianemic principle.

Plasma Coagulation Phenomenon of Staphylococci.—Gross calls attention to the fact that in operations during staphylococcic diseases, such as in surgical interventions on carbuncles or on osteomyelitis, blood coagulation is frequently accelerated. This observation was reported as far back as 1908 by Much, who showed that this coagulating power is most pronounced in Staphylococcus aureus. Staphylococcus albus likewise contains the coagulating factor but to a lesser degree than S. aureus. After describing the method employed in the tests in vitro, the author mentions other investigators who found that only the pyogenic staphylococci have the coagulating capacity, and that for this reason the coagulation test can be employed in the differentiation between pathogenic

and apathogenic staphylococci. He himself was able to corroborate that the coagulation of citrated blood is a characteristic of living staphylococci, and also that, to a certain extent, this test permits a classification of pathogenic and apathogenic staphylococci. Other experiments revealed that not only S. aureus as such but also its filtrates contain the coagulating substance. He describes tests on rabbits proving that intravenous injection of small amounts of the coagulating substance resulted in intravasal coagulation and in the formation of thrombi. From this observation he concludes that the coagulating substance of staphylococci may be of etiologic significance in certain forms of thrombosis in human subjects. Finally, he discusses the existence of an antibody which inhibits the coagulatory action. In collaboration with Mondry he found that coagulability is decreased in serums with a high antitoxin content.

12: 329-368 (March 4) 1933

Serotherapy of Poliomyelitis. A. Hottinger.—p. 329.
*Antigen Specificity of Serum Euglobulins as Foundation of New Serodiagnosis of Cancer and Tuberculosis. H. Lehmann-Facius.—p. 333.
Culture of Bacteria in Filtrable Stage. A. I. Kendall.—p. 337.
Determination of Amino-Acids in Urine of Patients with Exophthalmic Goiter. W. Krech.—p. 341.
*Do the Salivary Glands Influence Carbohydrate Metabolism by Incretory Action? E. Glaser and I. Bannet.—p. 345.
*Disturbances of Vascular System Accompanied by Pain. A. Schretzenmayr.—p. 346.
Changes of Erythrocytes in Diseases of Liver. C. Gamna.—p. 348.
Meinicke Clarification Reaction in Cerebrospinal Fluid. E. Meinicke and B. Holthaus.—p. 349.
Fundamental Problems of Energy Economy. F. Bandow and H. Bohnenkamp.—p. 350.
Idem. H. Heller.—p. 351.

Antigen Specificity of Serum Euglobulins.—Lehmann-Facius describes experiments which indicate that, in malignant tumors and in tuberculosis, the euglobulin fraction of the blood serum (hydrochloric acid globulin) has a certain agglutinating action, and that by means of a special method it is possible to demonstrate an antigen specific character in the euglobulin fraction of the majority of cancer and tuberculosis serums. A new serodiagnosis of these diseases is thus made possible by so-called cross experiments with certain test serums and entirely without the use of artificial extracts. Because of the cross arrangement it is possible to examine every serum simultaneously in two directions, for its antibody content by means of test antigen serums and for its antigen content by means of serums with known antibody content. The method is based on the centrifugation of mixtures consisting of cooked and native (with lecithin preabsorbed) euglobins, in the course of which the sediments, following shaking with solution of formaldehyde, may give conglobation reactions, provided homologous serums (carcinoma serums on carcinoma serums and tuberculosis serums on tuberculosis serums) have acted on each other in the combinations. In this manner it is possible to demonstrate even saturated antigenic substances in the serum, independent of the quantitative combination ratios. The simultaneous examination of the same serum with the antigen reaction as well as with the antibody reaction provides a greater range for the reaction, since some of the serums react only toward one side. It has been impossible so far to differentiate definitely between sarcomas and malignant tumors of different histologic structure, in spite of the fact that the different tumor serums may show a varying capacity of reaction toward the respective serums. The simplification of the square cross method suggested by the author is to use mixed coctoglobulins or mixed antiglobulins as reagents of greater "dispersion." He considers the factors of "disintegrating immunity" the foundation for the development of the described antigens.

Incretory Action of Salivary Glands.—Following a discussion of the literature, Glaser and Bannet describe their own investigations. They reach the conclusion that the salivary glands have no internal secretion of the nature of an insulin-like body or of secretin. However, they were able to demonstrate that the external secretion of the salivary glands, in addition to other ferments, also contains peroxidase and oxidase, and they think that this external secretion, by nature of its composition, is capable of compensating at least partly for the lack of pancreatic secretion. The enlargement of the salivary glands, observed by clinicians in patients with diabetes mellitus, would thus find its logical explanation. The practical conclusion the authors draw from this is that the external secretion of the pancreas should not be neglected in the treatment of diabetes mellitus but that its deficiency should be compensated for by substitutional preparations.

Vascular Disturbances with Attacks of Pain.—Schretzenmayr shows that the mechanical conditions for the development of an arterial dilatation exist in the chronic vascular disturbances, such as ambulatory angina pectoris, abdominal angina and intermittent claudication, in which the attacks of pain concur with an increase of the blood pressure. However, in vascular embolism, in which the pain is much more severe and an increase in blood pressure is absent, there is no dilatation of the arteries, nor can it be expected on the basis of the physical factors. Thus, the pain of those chronic vascular disturbances seems to favor the ischemic theory, that the dilatation of the arterial wall is only a facultative symptom, dependent on the facultative increase in the general blood pressure. Consequently the dilatation cannot determine the nature of the pain. The solution of this problem is of great significance for the treatment of these attacks of pain. If the treatment is based on the dilatation theory it would be necessary to keep the blood pressure as low as possible. On the basis of the ischemic theory, however, a treatment with this aim in view would certainly be wrong in many cases such as in angina pectoris. It has been found that the blood perfusion of the coronary system, like that of other vascular systems, is largely dependent on the arterial pressure. A decrease in blood pressure without simultaneous dilatation would cause a decrease in the blood perfusion; that is, the ischemia would become exacerbated. The ischemia theory indicates that the medicaments of the epinephrine group, which increase the blood pressure without contracting the coronary vessels, are the most effective in angina pectoris, and this has been proved in many cases which, although they did not react to epinephrine, were influenced by ephedrine. But, in employing these remedies, one should not overlook that by increasing the arterial pressure the impaired heart is taxed quite strongly. Attempts to decrease the pressure in patients with high blood pressure are in accordance with the ischemic theory in that, by relieving the heart from overburdening, the relation between blood requirement and blood supply becomes more favorable. In addition to the old and tried nitrite preparations, various circulatory hormones have been tried to obtain vascular dilatation, but in most instances without the desired results. The authors emphasize that, as a rule, only the component of ischemia resulting from a functional change in the tonus of the vessels can be influenced and, for this reason, even the best treatment will be effective in only some of the patients.

Medizinische Klinik, Berlin

29: 311-344 (March 3) 1933. Partial Index

*Achylic Blood and Nervous Diseases. F. Sinek.—p. 311.
Surgery of Biliary System. E. Melchior.—p. 315.
*Polycythemia Complicated by Symptoms Resembling Those of Ménière's Disease. J. Koch and H. Rothmann.—p. 320.
*Treatment of Chondral Form of Arthritis Deformans by Means of Cartilage Extract. D. Eisenklam.—p. 322.
*Bronchial Asthma as Hysterical Psychosis. H. Edel.—p. 322.
Therapy of Acute Influenzal Bronchitis. T. Auerbach.—p. 324.
Simultaneous Cholecysto-Urography. W. Rettig.—p. 325.
Serologic Demonstration of Syphilis: Value of Various Flocculation Reactions as Supplement to Wassermann Reaction. E. Meinicke.—p. 325.
Idem. G. Blumenthal.—p. 326.
Treatment of Anemias with Organic Sulphur Preparation. E. Kottlors and E. Kerner.—p. 327.

Achylic Blood and Nervous Diseases.—Under the heading of achylic blood and nervous diseases, Sinek discusses pernicious anemia, achylic chloranemia and funicular myelitis. He gives as the reason for considering together these essentially different conditions the fact that it is quite often difficult to differentiate them, and also that achylia gastrica and the bacterial conditions in the small intestine related to it occur in the three conditions. After discussing the symptomatology of pernicious anemia, he evaluates the various therapeutic methods, such as the treatment with raw liver, liver extracts, a preparation of hog stomach, and injectable liver extract. He considers iron therapy valueless in pernicious anemia but points out that arsenic therapy is often helpful. Blood transfusion, advisable particularly in cases in which the hemoglobin content is extremely low and during the time before the liver extract becomes active, not only is

a substitution therapy but also has a stimulating effect on the bone marrow. In discussing achylic chloranemia the author describes particularly certain differential diagnostic symptoms, such as the hollow shape, thinness and brittleness of the nails and the difference in the color of the skin and in the blood picture, as compared with what is found in pernicious anemia. Medication with iron is the most effective form of treatment, whereas arsenic and liver prove ineffective in this form of anemia. The good results occasionally obtained with liver therapy are probably the result of the high iron content of the liver. In the discussion of funicular myelitis, the author points out that this condition may develop as a complication not only of pernicious anemia and of chloranemia but also of beriberi, pellagra, sprue, scurvy and syphilis. The most important symptoms are paresthesias, disturbances in the deep sensibility and motor disturbances. He shows how funicular myelitis can be differentiated from tabes and from Friedreich's ataxia. In the milder forms he frequently found liver treatment helpful, but in the severer cases this treatment often failed.

Polycythemia and Symptoms of Ménière's Disease.—Koch and Rothmann call attention to the fact that a diet with high fat content but with a restricted quantity of salt and meat has been successfully employed in the treatment of polycythemia. They relate the case of a man of 37 in whom the symptoms of polycythemia (over six million erythrocytes) and increased hemoglobin content (140 per cent) concurred with manifestations resembling those of Ménière's disease, such as attacks of vertigo, vomiting and tinnitus. The otologic examination seemed to show that the symptoms indicative of Ménière's disease must have been caused by lesions of the central nervous system. Since polycythemia is accompanied by an increase in the quantity of blood and by abnormal blood perfusion, such as stasis, hyperemia or retardation of the blood stream, it is probable that diapedesis took place in the central nervous system. The likelihood of this cause is borne out by the fact that symptoms resembling those of Ménière's syndrome are observed also in patients with arteriosclerosis and as an early sign of cerebral sclerosis without signs of involvement of the internal ear. Aside from these considerations, which seem to prove a relation between the polycythemia and the Ménière syndrome, the authors point out that in the reported case the fat diet had a favorable influence on the polycythemia and improved the symptoms indicative of Ménière's disease.

Treatment of Chondral Arthritis Deformans by Cartilage Extract.—Eisenklam employed a cartilage extract in the treatment of thirty-six presenile or senile patients with chondral arthritis deformans. The extract was prepared from the cartilaginous portions of the bones of calves. After the cartilage was chopped fine, it was mixed with physiologic solution of sodium chloride and this mixture was kept for twelve hours at room temperature. Then it was extracted, filtered and dialyzed. The dialysate was concentrated in the vacuum and under low temperature, filtered, sterilized by heat and put in ampules. Thus a protein-free solution was obtained that contains all dialyzable constituents of the cartilage. The extract was administered by subcutaneous injection. First, 1 cc. was given daily for four days, then 2 cc. daily for four days, and after that 3 cc. daily for from seven to fourteen days. Following this, the dosage was decreased, so that during the fourth week 1 cc. was administered daily. A considerable improvement was effected within from four weeks to three months in twenty-four of the patients. The pain was lessened and the movements were improved. In the patients in whom the cartilage extract alone did not bring the desired results, a new series of injections was given and was combined with roentgen irradiation. This combination therapy proved effective in several cases.

Bronchial Asthma as Hysterical Psychosis.—According to Edel, bronchial asthma is readily recognized during the attack, but the diagnosis is difficult during the attack-free period, particularly when emphysema has not yet developed. More or less severe bronchitis may be a result of the disease but is not necessarily pathognomonic. When there are no positive signs, the physician may be inclined to rely on the statements of the patient, without paying sufficient attention to the clinical aspects. The patient may even come for consultation with his own diagnosis, and treatment may be instituted on the strength of this. The author observed two cases of hysterical simulation of asthma, which are of especial interest because of the rare etiologic factors, the course of the disorder and the attendant circumstances. He succeeded in overcoming the psychic conflicts by the use of patience and kindly interest. Repeated consultation, assiduous explanation of even the minor problems of the patient, and the employment of mild sedatives led the patient back to a more normal life.

Münchner medizinische Wochenschrift, Munich

80: 327-366 (March 3) 1933

*Tuberculosis and Treatment with Light Baths. A. Jesionek.—p. 327.
*Action of Ultraviolet Rays on Catalase Content of Blood: Contribution to Problem of Dosage of Ultraviolet Rays. H. Koeppe.—p. 332.
Late Gonorrheal Arthritis: Aspects of Arthritic and of Periarthritic Diseases with Lingering Course. F. Wirz.—p. 335.
Cesarean Section Formerly and Now. S. Sztehlo.—p. 337.
Treatment of Displacements of Uterus. T. von Jaschke.—p. 340.
Reflector with Recoss' Disk of Magnifiers for Examination of Eyes. E. Hopmann.—p. 343.
New Treatment of Gastric Ulcer by Means of Short Wave Diathermy of Sympathetic and Parasympathetic Nerves of Neck. R. Groth and B. Jegorow.—p. 343.
Treatment of Colics of Urinary Passages. W. Grossmann.—p. 345.

Tuberculosis and Light Baths.—Jesionek points out that light baths have a curative effect not only on tuberculous foci in the skin but also on tuberculous processes within the body. On the other hand, it is possible that light baths produce an unfavorable influence on tuberculous processes. The author bases the explanation of the mechanism of this function of the skin on experimental studies indicating that the skin has an antituberculous function and is the source of the natural defense substances of the organism against the tubercle bacillus. He considers these substances as esophylaxins and designates them as epidermidal antituberculins. Already Robert Koch had noticed that the intracutaneous introduction of killed tubercle bacilli gives a quite different reaction from that caused by the subcutaneous administration. Following a discussion of animal experiments and of observations on human beings, the author points out that in civilized human beings the epidermal source of the natural and antituberculous defense substances flows slowly and deficiently, because only a small portion of the skin is exposed to the adequate stimuli provided by air and light. The light and air bath withdraws the skin from this unnatural condition, interrupts the evenness of the light and temperature status to which the skin of civilized human beings has become accustomed, and frees the skin from the confining influences that reduce its metabolic functions. The first stimulus exerted by the light and air bath following the removal of clothing depends on the fluctuations in the temperature. The reduced temperature, the increased pressure exercised by movements of the air and the influence of the light increase the blood perfusion of the skin, and this combination of stimuli, by way of the parenchyma cells that are susceptible to stimuli of heat, pressure or light, regulates the blood perfusion and the blood content of the skin. In this regulation of the blood supply of the skin the author sees the most important biologic action of the light and air bath, because the blood supply determines the nutrition, the chemical composition, the warmth and the pressure of the skin, as well as the function and the metabolic rate of the skin cells. The increase in the blood perfusion also enables the skin cells to produce antituberculous and tuberculolytic substances. In order to avoid the possible detrimental effect of the light and air bath in tuberculosis it is essential not only to avoid light induced inflammation of the skin but also undercooling and overheating, for such influences may paralyze instead of stimulating the parenchymal cells of the skin.

Ultraviolet Rays and Catalase Content.—Koeppe calls attention to the fact that the great significance of catalase for all oxidation processes in the organism, and its consequent importance for all life processes of the cells, is based only on the factor that all cells decompose hydrogen dioxide and that therefore all cells must contain catalase. In recent times the catalase has been measured by determining the oxygen liberated in the decomposition of hydrogen dioxide. Certain aspects of this energy determination could be studied through the influence

exerted by the ultraviolet rays of the quartz lamp on hydrogen dioxide, and the experiences gained thereby were an advantage in catalase determinations of the blood. The author discusses a number of investigations on the action of the ultraviolet rays on ferments and shows that many of them contradict one another. His own studies likewise contradicted one another at first, for the influence of irradiation on the blood catalase became manifest either as an increase or as a decrease in the catalase value. Only after the initial value had been given consideration did these results become clearer. It was found that, when the initial catalase values were high, irradiation with ultraviolet rays effected a decrease, whereas a low initial value was found to be increased after irradiation. Thus the catalase content plays an important part in the determination of the correct dosage in ultraviolet ray treatment of rickets. The author's studies convinced him that children with low or average catalase content are suitable for ultraviolet ray treatment, while those with high catalase content are not. In children in whom ultraviolet irradiation was omitted because of high catalase content, improvement set in just the same. The author admits that catalase determinations before and after irradiation with ultraviolet rays reveal only the response of the organism to irradiation, but he admits that this test method cannot replace the "erythema dose" test, for there are no relations between the two test methods.

Wiener klinische Wochenschrift, Vienna

46: 257-288 (March 3) 1933

Preventive Measures Against Tuberculosis in Vienna. A. Götzl.
Experimental Investigations on Pulmonary Edema. F. Brunn.—p. 262.
Clinical Aspects of Exophthalmic Goiter with Especial Consideration of Blood Picture. O. Zimmermann.—p. 265.
*Progress in Injection Treatment of Hemorrhoids. H. Henninger.—p. 270.
*Parenteral Treatment of Pernicious Anemia. A. Schechter.—p. 272.
Roentgen Examination of Postoperative Biliary Fistulas. F. Fleischner.—p. 275.
Treatment of Functional Amenorrhea. R. Hofstätter.—p. 275.

Injection Treatment of Hemorrhoids. — Henninger reviews the history of the injection treatment of hemorrhoids and describes his own observations on sixty-seven patients. At first he used 70 per cent alcohol and, in the case of internal hemorrhoids, he always obtained good results with this method, but the injection into a subcutaneous nodule resulted in gangrene. This induced him to try a milder substance and, on the basis of Winkler's report, he tried the various types of sugar in glycerin, which he had found helpful in the treatment of more than 100 cases of varicose veins. He tried dextrose, lactose and galactose with glycerin, and he is as yet unable to say which of these is the most effective. The solutions employed by him were: a 10 per cent solution of dextrose in undiluted bidistilled glycerin, either alone or with the addition of 4 per cent quinine hydrobromide; a solution of from 20 to 25 per cent galactose in bidistilled glycerin, and a 10 per cent solution of quinine hydrobromide in 70 per cent alcohol. The author points out that the unfavorable results reported from the injection treatment probably concern the external hemorrhoids, because the skin reacts differently from the mucous membrane. For this reason he advises the employment of different injection fluids for the external and internal nodules. For the internal nodules he recommends the use of alcohol or of alcohol with quinine, and for the external nodules he employs only the sugar glycerin combinations. The doses should be small: if alcohol is used, from 0.5 to 1 cc. should be injected in each nodule, and in case of the sugar glycerin combinations from 1 to 1.5 cc. should be given. These combinations should be warmed before injection to make them more fluid. It is generally possible to treat all existing nodules in one session.

Parenteral Treatment of Pernicious Anemia.—Schechter shows that the parenteral treatment represents considerable progress in the therapy of pernicious anemia. It is particularly helpful in advanced cases and makes it possible to treat them effectively without blood transfusion. The author made his observations on the injection therapy in seventeen cases, nearly all of which were quite severe. He obtained good results with injectable liver extracts and also with intramuscular injections of biogenic amines, particularly with choline. In cases that were refractory to oral liver therapy, a combination or alternation of injections of liver extract and of choline proved helpful in that the blood status became normal or even supernormal. There was no absolute failure, nor any fatality among the seventeen cases in which the author employed the injection therapy.

Klinicheskaya Meditsina, Moscow

11: 1-118 (Nos. 1-2) 1933. Partial Index

Meaning of Cerebral Sensibility Changes in Pregnancy for Organism. P. P. Lazarev.—p. 1.
Analysis of Theories Regarding Angina Pectoris. N. M. Rudnitskiy.—p. 14.
Method and Problems in Treatment of Workers with Frequent and Continued Morbidity. T. G. Gelman.—p. 34.
*Results with Blood Transfusion. A. V. Smirnov and A. I. Ermolenko.—p. 41.
Functional Diagnostic Meaning of Electrocardiogram. O. P. Kufareva and I. T. Karasev.—p. 68.
*Blood Picture in Endocarditis. A. M. Vydrin.—p. 86.
Symptomatology of Primary Isolated Sclerosis of Pulmonary Artery. S. P. Solomin.—p. 91.
Angina-Like Syndrome of Vegetative Character. D. A. Kogan.—p. 98.

Blood Transfusion.—Smirnov and Ermolenko report their observations in 260 blood transfusions performed on 189 patients. When the main indication was to increase blood coagulability, they resorted to the citrate method. Citrated blood with dextrose was used when the indication was to replenish the blood-vascular tree. After copious hemorrhage, whole blood was given. They insist on the use of the three drop method of Nuerenberger for the compatibility test in every case, in addition to grouping of the donor and the recipient. In three of their patients, the test was positive in otherwise corresponding groups. They believe in the use of relatively small doses, from 100 to 200 cc., to accomplish hemostasis. They conclude that blood transfusion is the most potent means of combating a hemorrhage. The effect is beneficial but evanescent in acute septic conditions, the percentage of permanent improvement being insignificant. In chronic sepsis, blood transfusion gave a high number of permanent recoveries, especially when combined with specific vaccine therapy.

Blood Picture in Endocarditis.—Vydrin reports on hematologic studies in twenty-five cases of endocarditis. Of these, twenty patients had chronic endocarditis and five had the acute form. In four of the patients with chronic endocarditis he found, in addition, a glomerular nephritis. Shilling's method of counting was used. The blood picture in the acute endocarditides showed an erythrocyte count of 2,000,000 or lower, a hemoglobin percentage of from 20 to 35, a neutrophil leukocytosis with deviation to the left (Schilling), and a presence of juvenile forms of from 5 to 8 per cent. Such a picture offered a poor prognosis. Three of the five acute cases proved fatal. The red count in the milder cases was from three and one-half to four million and the hemoglobin from 60 to 70 per cent. The color index vacillated between 0.6 and 0.7. There were signs of secondary anemia both in the acute and in the chronic cases in which septic manifestations and poor resistance were present. In two patients the blood picture approximated that of pernicious anemia, the erythrocytes fell to 1,030,000 and the color index was 0.9 per cent. A leukocyte count of from 10,000 to 12,000 was found in eleven patients, and in cases complicated with glomerulonephritis the count reached 18,000. The differential count showed from 84 to 86 per cent of neutrophils with a deviation to the left, from 2 to 4 per cent of juvenile forms and a lymphopenia. In favorable cases, leukocytosis disappears and the lymphocytes increase. Six patients with septic manifestations and poor resistance presented a picture of leukopenia. Monocytosis of from 12 to 16 per cent was seen in patients with good resistance and a favorable course. The blood picture in the three fatal cases showed a sharp deviation to the left on the part of the neutrophils, with a juvenile cell count up to 11 per cent and a 20 per cent monopenia. Eosinophils were present in twenty-two cases but did not appear to have any diagnostic significance. A lymphocytosis of from 35 to 40 per cent without a deviation to the left was present in six cases. These were cases with a favorable course. Changes in the vascular-endothelial system mentioned in the literature and manifested by the presence of endothelial cells in the circulating blood were observed in only two cases, and in these the chronic endocarditis was complicated by a syphilitic aortitis. The author did not observe any improvement from blood transfusion.